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ABSTRACT

A sample design of schools in an elementary school survey is presented. This sample outlines two states of sampling. First is a sample of 750 schools drawn for purposes of describing compensatory programs. The second-stage sample is a subsample of 200 schools for purposes of performance testing of pupils. (CK)

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PR-72-2

FINAL REPORT

Contract No. OEC-0-71-3715

DESCRIPTIVE AND ANALYTIC STUDY OF COMPENSATORY READING PROGRAMS

APPENDIX

Donald A. Trismen

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January 1972

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY

APPENDIX A

Sample Design for "A Large Scale Evaluation of Compensatory Reading and Reading Related Efforts in the Elementary Grades"

Prepared for

Educational Testing Service

as a subcontract under

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by

The Research Division of

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1. Introduction

This report sets forth the sample design for Phase I of Contract OEC-0-71-3715. That contract resulted from a response to RFP 71-25, Task B-10. The RFP suggested drawing a sample of schools from those in the Elementary School Survey (ESS), sometimes referred to as the "Belmont Survey." The ESS has been going on for several years, but is not being done during 1971-72. At the date of preparation of this report its future is uncertain.

After some study of the sampling problem, it was decided to draw a sample independent of the Belmont sample. The primary reason was that it was deemed to be desirable to avoid overlap of the compensatory reading sample (this study) with the Anchor Test Study, which is also being done during 1971-72. Also, a sample drawn from the Belmont sample would not have enough opportunities for rational substitution. Furthermore, the Belmont sample used size of LEA as a major stratifying variable, but previous studies have shown that size of LEA is poorly correlated with pupil performance as compared to community variables which reflect socio-economic status (SES). When the above factors were considered, along with the need to coordinate with the ESS in the event of its continuation, it was decided to draw an independent sample.

The sample design outlined below contemplates two stages of sampling. First is a sample of 750 schools drawn for purposes of describing compensatory reading programs. The second-stage sample is a subsample of 200 schools for purposes of performance testing of pupils.

2. Construction of Sampling Frame

The 1970-71 School Universe Tape was used as the basic list of schools from which to draw the sample. However, at the time the work had to begin on the sampling frame, the 1970-71 lists were not available for New Jersey, Maine, Arizona, California, Minnesota, Connecticut, and South Dakota. The 1969-70 School Universe Tape was used for these states. These two tapes were merged and selected data for those schools having enrollments in grades 2, 4 or 6 were extracted.

Mayeske and Cohen, A Study of Our Nation's Schools, showed that socio-economic status of the community and racial-ethnic group membership were highly correlated with test performance. Other variables, such as degree of urbanization, size of school, geographic location, etc., were relatively unimportant community variables in the prediction of performance. For this reason, average income and percent minority are being used as the major stratifying variables in this study.

Unfortunately, income measures that can be identified with school attendance areas on a nationwide basis (for stratification purposes) are either not available or prohibitively expensive to produce. An example of available but expensive statistics is the Westat income estimator applied to ED's and Block Groups in the 1970 Census Summary Tapes. Census estimates of income are not now available and will never be reported for areas below the Tract and MCD level.

One source of income data which was considered is the 1966 average gross income per taxpayer reported by IRS by five-digit ZIP Codes. Since the ZIP Codes of schools in the School Universe Tapes are known, it is possible to match files to associate income data with schools. The IRS data ZIP revenue tapes report number of taxpayers and aggregate gross income for taxpayers with less than $3,000 of income, $3,000 and under $10,000 of income, and $10,000 and over. When the average gross income

per taxpayer in the $10,000 and over class exceeded $15,000, the average was replaced by $15,000 to avoid undue influence of a few large incomes. Even then, average income for small ZIP Code areas is considered to be a measure subject to wide variation and not necessarily indicative of the SES of the school attendance areas within the ZIP Code area.

Another source of income data is the 1960 Census. (Income data from the 1970 Census were not available in time for this project.) Census median family income data are reported by tract or minor civil division (MCD). However, identification of schools with tracts or MCD's would have been prohibitively expensive in view of the budget available. Therefore, the smallest geographic unit for which Census median family income was associated with schools was the county or independent city containing the school.

Percent minority enrollment of schools in districts of 3,000 or more enrollment was obtained from a computer tape made available by the Office of Civil Rights (OCR). For schools without this information, the percent nonwhite reported in the county by the 1970 Census was used.

The records in the School Universe Tape (combined 1969-70 and 1970-71, as described above) were augmented by adding income from the ZIP revenue tape, minority enrollment from the OCR tape, 1960 Census median family income, and percent nonwhite for the county from a Westat tape of county Census characteristics. Some analysis was done on the resulting tape to determine whether to use Census county income or IRS ZIP Code area income. Cross-tabulations having percent minority on one dimension and either Census income or IRS income on the other were prepared. These tabulations were run for various sizes of counties in terms of population and for various size classes of numbers of taxpayers in five-digit ZIP Codes.

On the basis of the observed relationship between minority enrollment and income, a (largely subjective) decision was reached to use IRS five-digit ZIP Code income data for schools in counties of 50,000 population or more and to use county median family income as reported by the 1960 Census for schools in counties with less than 50,000 population. The 1960 Census incomes had to be appropriately transformed to be comparable to the 1966 ZIP Code incomes. This transformation is discussed later.

One final source of data was used. The Program Reference File for the 1970-71 school year contains a data item showing whether the school participated in ESEA Title I programs. If the record showed such participation for grades 1-6 for either academic or nonacademic programs, the school was labeled a Title I school. The Program Reference File is not as complete as the School Universe Tape. Schools in the latter file which are not in the Program Reference File, or in that file but without an indicator of Title I participation, were labeled as Title I schools if their record in the School Universe File indicated federal funded compensatory programs. In this manner, it was possible to attach a Title I indicator to every school in the file.

The format of the merged computer file is shown in Appendix A.

Since income statistics came from two sources at two different points in time, it was known that they would not be comparable without adjustment. All schools in counties of 50,000 or more population were given an income measure from the IRS tape, so an equating adjustment was needed only for 1960 Census income for schools in counties of less than 50,000 population.

Examination of preliminary tabulations showed that there was a different relationship between IRS income and Census income for the counties containing schools with less than 40 percent minority than for counties containing schools with 40 percent or more minority. Table 2.1 shows the approximate

relationships found. Comparisons were made from the cumulative income distributions. The following rules were adopted:

a. If percent minority is less than 40, add $1,100 to Census income.

b. Otherwise, add $1,500.

This translation makes it possible to record all income in IRS-equivalent units.

Table 2.1 Correspondence between Census median income (1960) and 1966 average gross income for counties with population under 50,000

Census income	Less than 40% minority	40% or more minority
$2,000	$3,200	$3,700
3,000	4,400	4,700
4,000	4,800	5,400
5,000	5,600	5,900
6,000	7,600	7,800
Average difference from Census	$1,100	$1,500

For purposes of stratification, the following classes of income and percent minority enrollment were used:

Percent minority

1. Less than 5
2. 5 - 9.9
3. 10 - 19.9
4. 20 - 39.9
5. 40 - 59.9
6. 60 - 79.9
7. 80 and over

Income ($)

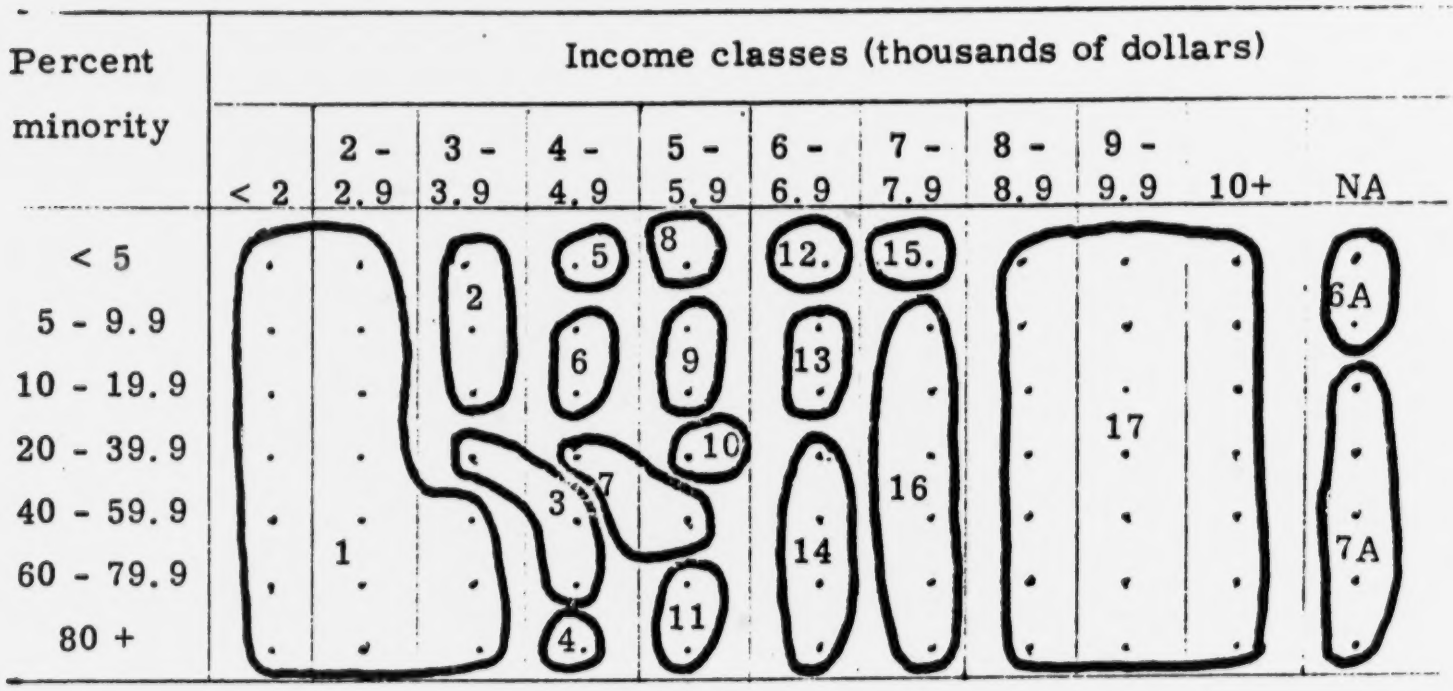
1. Less than 2,000
2. 2,000 - 2,999
3. 3,000 - 3,999
4. 4,000 - 4,999
5. 5,000 - 5,999
6. 6,000 - 6,999
7. 7,000 - 7,999
8. 8,000 - 8,999
9. 9,000 - 9,999
10. 10,000 and over

Tabulations of number of schools, total enrollment and "measure of size" by Title I participation and the above classes of income and minority are shown in Apprendix A. The measure of size was assigned to schools in such a manner as to optimize approximately the allocation of the sample to the various size classes of schools in view of the anticipated variability in the universe and the cost of data collection. The methodological basis for assignment of the measures of size is given in Appendix B.

Major stratum boundaries for both Title I and nonTitle I schools are shown in Tables 2.2 and 2.3. In constructing the major strata, primary emphasis was placed on income as a stratifying variable and secondary emphasis on percent minority. This decision was based upon the observation that the relationship between Title I status and percent minority is less pronounced than the relationship between Title I status and income.

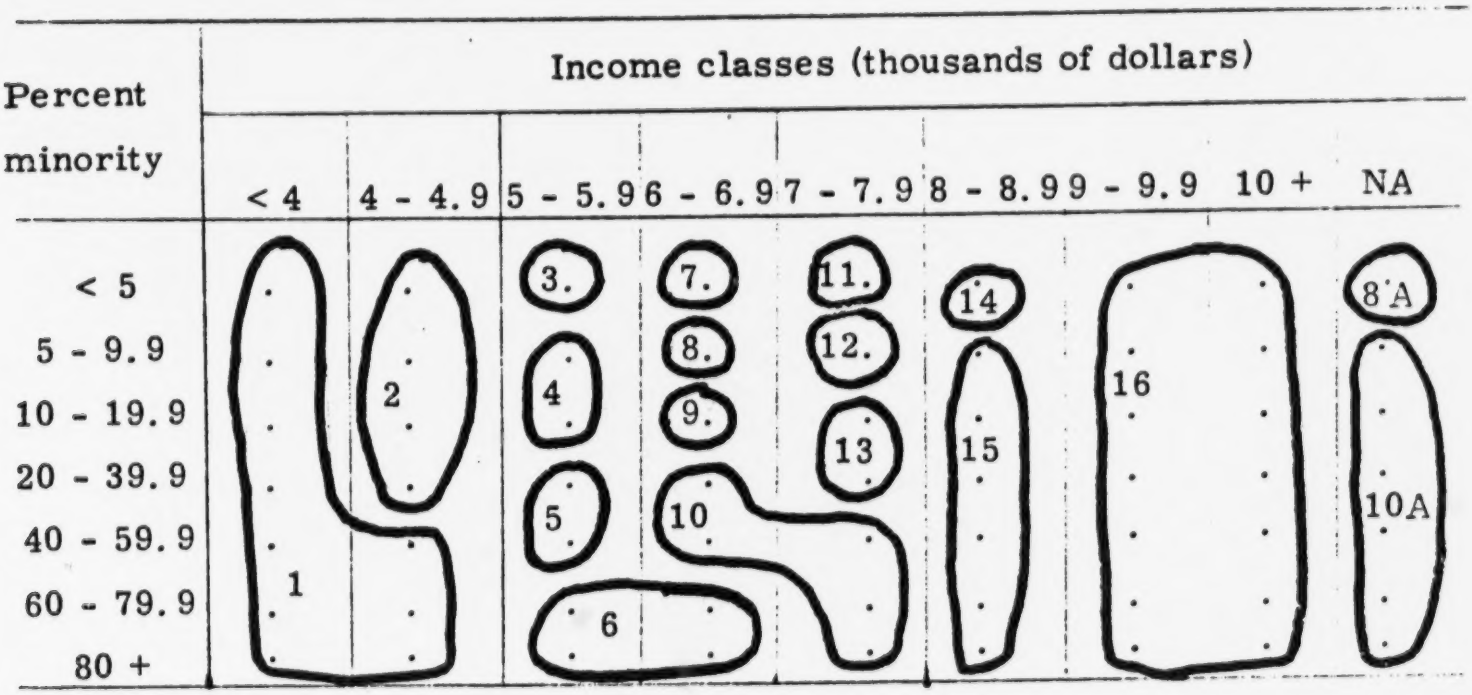
The number of schools, enrollments and aggregate measures of size of the major strata are shown in Tables 2.4 and 2.5.

Table 2.2 Identification of major strata - Title I schools



Note: Numbers in the clusters identify major strata

Table 2.3 Identification of major strata - nonTitle I schools



Note: Numbers in the clusters identify major strata

Table 2.4 Number of schools, enrollment, and measures of size for major strata, Title I schools

Major stratum	Number of schools	Enrollment	Measure of size
1	1,449	258,332	21,647
2	1,536	181,808	17,718
3	1,286	226,175	19,568
4	947	265,273	18,649
5	2,623	280,696	28,415
6	1,922	302,414	27,049
7	1,892	358,208	36,564
8	5,603	677,113	66,429
9	1,940	317,303	27,888
10	1,474	297,657	24,435
11	1,103	275,846	20,336
12	4,563	679,477	62,516
13	1,878	334,893	29,120
14	1,777	382,908	30,715
15	1,689	324,930	27,768
16	1,610	329,500	27,364
17	1,702	371,199	30,669

Table 2.5 Number of schools, enrollment, and measures of size for major strata, nonTitle I schools

Major stratum	Number of schools	Enrollment	Measure of size
1	1,710	216,234	19,376
2	2,603	233,897	24,331
3	3,676	357,555	36,869
4	1,681	277,552	23,868
5	1,060	209,266	17,161
6	602	158,173	11,474
7	4,569	659,326	60,450
8	1,571	282,564	24,373
9	908	189,194	15,336
10	1,502	329,090	32,542
11	2,603	525,535	43,417
12	816	167,587	13,757
13	1,175	259,326	20,850
14	1,613	363,429	29,360
15	1,146	257,419	20,793
16	1,107	262,840	20,747

As discussed earlier, community variables which measure socio-economic status have been shown to be highly associated with test performance and this association provided the basis for the decision to use income and percent minority as the principal stratifying criteria. If only pretesting and posttesting were involved no other controls would need to be placed on the design. However, an important part of the study is to describe compensatory programs on a nationally projectable basis. For this part of the job, degree of urbanization, geographic region and size of school may be important.

If these factors are brought in as major stratifying factors, however, the number of substrata would be too many for the sample to be allocated. Another way to take them into account has been developed. The plan uses the following steps:

1. Put the schools in each major stratum, as defined by Tables 2.2 and 2.3, in order by Census region, as follows:

   Northeast
   North Central
   South
   West

2. Within the Northeast Region put the schools in order by degree of urbanization from most urban to least urban, based upon reports in the Program Reference File, as follows:

   Large city, over 500,000 population
   Large city, 200,000 to 500,000 population
   Suburb of a large city
   Middle-size city, 50,000 to 200,000 population
   Suburb of a middle-size city
   Small city or town, less than 50,000 population
   Rural area near a large city

Rural area near a middle-size city

Rural area not near a large or middle-size city

Unknown

The classes were chosen by school principals and have obvious weaknesses, both because of the definitional problem and the arbitrary choices as to which is "more urban" between selected pairs. They should serve some purpose with respect to spreading the sample over various degrees of urbanization, however, in spite of these weaknesses.

3. The order of urbanization was reversed in the North Central Region and Western Region so that the schools on the boundary of the listings between two adjacent regions would have similar urbanization characteristics.

4. The schools, having been put in the above order in each major stratum, were divided into a number of approximately equal sized blocks, based upon the measure of size and these blocks of schools are called "final strata".

5. The schools in each final stratum were assigned random numbers and sorted in the order of the random numbers.

6. Two schools were selected from each final stratum by a procedure discussed below to form the initial sample.

7. Substitutes were selected by a procedure also described below.

2.1 Formation of Final Strata

The aggregate measure of size of all schools is as follows (the sum of the figures in the last columns of Tables 2.4 and 2.5):

Title I schools	516,850
NonTitle I schools	414,704
Total	931,554

The RFP upon which the contract was based specified that the sample of schools would be distributed as follows:

Title I participating schools	60%
Title I eligible but not participating schools	30%
NonTitle I eligible schools	10%

It was subsequently found that there is no uniformly applied criterion of eligibility and that eligibility, as determined by LEA's, is not reported on any of the available data bases. Therefore, we have interpreted the requirement to call for 60 percent of the sample to be allocated to Title I schools and 40 percent to schools not participating in Title I funds. There will, of course, be some differences between participation, as indicated on the data base, and actual participation. Actual status will be determined from the sampled schools.

The target number of schools to be selected for the first phase of the survey is 750. Some of these will come from the sample of school districts drawn to fill in gaps in the school universe listings (see Section 4, below). It is estimated that about 30 may come from this source, leaving 720 to be allocated to the major strata. With two drawn per final stratum, we need to identify 360 such final strata. Of these, 60 percent (216 final strata) should be allocated to Title I schools. The remaining 144 final strata should be allocated to NonTitle I schools. Therefore the average measures of size of the final strata should be as follows:

	Total measure of size	Number of final strata	Average measure of size
Title I schools	516,850	216	2,393
NonTitle I schools	414,704	144	2,880

The following notation will be used to clarify the methodology:

Let $A_{gi}^{(f)}$ = measure of size of the i^{th} school in the g^{th} major stratum;

f = 1 for Title I schools and 2 for nonTitle I schools.

$$A_g^{(f)} = \sum_i A_{gi}^{(f)} \; ; \; A^{(f)} = \sum_g A_g^{(f)}$$

$\bar{A}^{(f)} = A^{(f)} \Big/ N^{(f)}$, where $N^{(f)}$ is the number of final strata to be chosen from Title I schools if f = 1 and from nonTitle I schools if f = 2

$N_g^{(f)} = A_g^{(f)} \Big/ \bar{A}^{(f)}$, rounded to the nearest integer

$\bar{A}_g^{(f)} = A_g^{(f)} \Big/ N_g^{(f)}$ = average measure of size for the final strata in the g^{th} major stratum

$\text{Cum } A_{gi'}^{(f)} = \sum_i^{i'} A_{gi}^{(f)}$ in the order in which the schools are listed in the g^{th} major stratum.

Final stratum boundaries will be determined from the $\text{Cum } A_{gi'}^{(f)}$ so as approximately to equalize the measures of size of the final strata. The procedure is as follows:

1. The schools in the first final stratum within the g^{th} major stratum for each value of f are the schools for which $\text{Cum } A_{gi'}^{(f)} \leq \bar{A}_g^{(f)}$.

The next school (i' + 1) will be added if $\text{Cum } A_{gi'+1}^{(f)} - \bar{A}_g^{(f)} \leq A_{gi'+1}^{(f)} \Big/ 2$.

Identify this final stratum as h = 1.

2. The schools in the second final stratum within the same major stratum will be all of the schools following those in the first final stratum with $\text{Cum } A_{gi'}^{(f)} \leq 2\,\bar{A}_g^{(f)}$, including the next one if $\text{Cum } A_{gi'+1}^{(f)} - 2\bar{A}_g^{(f)} \leq A_{gi'+1}^{(f)} \Big/ 2$. The other final strata in major stratum g are defined in a similar way.

3. The result is $N_g^{(f)}$ final strata identified by subscripts g^1, g^2, g3, etc., all of which are of approximately equal size.

2.2 Drawing the Sample of Schools, Stage I

The schools will actually be drawn into the sample by the following procedures:

1. Sort the schools within each final stratum on the 5-digit random number.

2. Obtain new Cum $A_{ghi}^{(f)}$ for the schools (now in random order within strata) by cumulating across all final strata within a major stratum g.

3. Compute $\bar{\bar{A}}_g^{(f)} = \bar{A}_g^{(f)} \Big/ 4$

4. The selection numbers within the g^{th} major stratum are

$$R_{g11}^{(f)} = \bar{\bar{A}}_g^{(f)}$$

$$R_{g12}^{(f)} = 3\ \bar{\bar{A}}_g^{(f)}$$

$$R_{g21}^{(f)} = 5\ \bar{\bar{A}}_g^{(f)}$$

$$R_{g22}^{(f)} = 7\ \bar{\bar{A}}_g^{(f)}$$

$$\vdots$$

$$R_{gN_g^{(f)}2}^{(f)} = A_g^{(f)} - \bar{\bar{A}}_g^{(f)}$$

5. The schools selected for the initial sample will be those for which Cum $A_{ghi}^{(f)}$ includes the selection numbers.

6. Substitute schools will be drawn at the same time as the initial sample. Four substitute selection numbers will be defined at equidistant

intervals of o.4 $\bar{\bar{A}}_g^{(f)}$ before and after the selection numbers. The full set of selection numbers in the g^{th} major stratum will be structured as follows:

$$R_{g11(3)}^{(f)} = 0.2\bar{\bar{A}}_g^{(f)}$$

$$R_{g11(1)}^{(f)} = 0.6\bar{\bar{A}}_g^{(f)}$$

$$R_{g11}^{(f)} = \bar{\bar{A}}_g^{(f)}$$

$$R_{g11(2)}^{(f)} = 1.4\bar{\bar{A}}_g^{(f)}$$

$$R_{g11(4)}^{(f)} = 1.8\bar{\bar{A}}_g^{(f)}$$

$$R_{g12(3)}^{(f)} = 2.2\bar{\bar{A}}_g^{(f)}$$

$$R_{g12(1)}^{(f)} = 2.6\bar{\bar{A}}_g^{(f)}$$

$$R_{g12}^{(f)} = 3\ \bar{\bar{A}}_g^{(f)}$$

$$R_{g12(2)}^{(f)} = 3.4\bar{\bar{A}}_g^{(f)}$$

$$R_{g12(4)}^{(f)} = 3.8\bar{\bar{A}}_g^{(f)}$$

and so on, where the subscript in parentheses indicates an order of substitution (see below).

7. In addition to listing the initial sample and the substitute schools, all schools within the same school districts as the initial sample schools will be listed for use in the sample supplementation procedure described in Section 2.3 and Appendix C.

8. The priority order for substitution will be:

   Substitute the school, if any, in the same school district and with the same 2-4-6 grade structure that is closest in in size (enrollment in grades 2, 4, and 6), provided it is in the same major stratum and has the same measure of size. No other school in the same district should be substituted.

Substitute schools in other school districts within the same major stratum as identified above, up to a maximum of four eligible substitutes for each primary sample school, in the order indicated by the subscripts in parentheses, above.

A particular substitute school may, in some instances, be a possible substitute for more than one initial sample school.

9. Substitutes will be used if the initially selected school (or one with higher order of priority) refuses to cooperate, was previously selected for the Anchor Test study, or is a school participating in Follow Through program.

The procedures given above will produce the sample of schools to be surveyed in Stage I (description of compensatory reading programs) except for those selected from the supplemental sample discussed below.

2.3 Supplemental Sample - Stage I

It is known that the sampling frame of schools is neither complete nor up to date. There are some reporting omissions from the School Universe Tape. Part of that file is as old as Fall, 1969, and there have been changes both in grade composition and numbers of schools since the School Universe Tape was prepared.

The following steps are needed to obtain a supplemental list of schools.

a. Draw a sample of school districts with known probability of selection.

b. For each of them, obtain a complete listing of schools with enrollments in grades 2, 4 and 6.

c. Check this list against the listing of the School Universe Tape for those districts.

d. Any schools on the current list but not on the School Universe Tape will constitute a special sampling frame.

e. This special sampling frame will be stratified and two schools will be drawn from each stratum. Subsampling will be done so as to achieve overall probabilities of selection that will approximate as nearly as feasible the probabilities that the schools of each size class had of inclusion in the initial sample described in the previous section.

The methodology used in selecting the supplemental sample is described in Appendix C.

2.4 Sampling of Teachers within Schools - Stage I

A principal's questionnaire will be sent to each school in the sample. In addition, a questionnaire will be sent to every teacher of compensatory reading in any of the grades 2, 4 or 6 of the sampled schools. There will be no subsampling.

2.5 Sampling of Schools - Stage II

Stage I sample schools will be surveyed in the Spring of 1972. On the basis of those returns, it will be possible to classify the sampled schools according to the cells of Table 2.6. The table can be prepared for each of

Table 2.6 Classification of Sampled Schools - Stage I - by SES Class and Compensatory Program

	Schools with Title I participation			Schools without Title I participation	
	With compensatory reading		Without compensatory reading	With compensatory reading	Without compensatory reading
SES Class	Title I funding	Not Title I funded			
(1)	(2)	(3)	(4)	(5)	(6)
1					
2					
3					
.					
.					
.					

grades 2, 4 and 6, if desired. Also, it can be prepared for both numbers of schools and numbers of pupils.

Note also that similar tables can be prepared for national estimates (projections) of the number of schools and pupils in each cell. The methods for making such projections are described in Section 3.

Data for determining the SES class of Table 2.6 as well as the column classification, will be obtained in the Spring '72 survey. The SES score will be derived after statistical analysis of the data. An alternative still under consideration is to obtain a measure of SES from the 1970 Census summary tapes for the small geographic areas comprising the school attendance areas. This kind of indicator would have the merit of uniform application over the universe and would not be subject to the reporting whims of school principals.

The sample of (about) 200 schools to be tested in Fall 1972 and re-tested in Spring 1973 cannot be drawn until the cells of Table 2.6 are filled in. At the date of preparation of this report decisions are still being made concerning which of the columns of Table 2.6 should be compared and even which should be included in the Stage II study.

When those decisions are reached and the classification of the Stage I schools is known, the SES classes of Table 2.6 will constitute strata from which schools with the characteristics identified by columns (2) through (6) will be drawn. For example, suppose SES class 3 has the following numbers of sample schools in the cells:

	Schools with Title I Participation	
	With compensatory reading	
(2)	Title I funding	50
(3)	Not Title I funding	10
(4)	Without compensatory reading	10
	Schools without Title I Participation	
(5)	With compensatory reading	20
(6)	Without compensatory reading	35
	Total	125

The probabilities with which these schools were drawn into the Stage I sample are known. One can allocate a sample over the five classes in such a manner as to represent the universe proportions or he can thicken the sample for certain categories. The decision can be made later.

A decision has been made that when the Stage II schools have been identified all pupils in grades 2, 4 and 6 will be tested, so no subsampling of pupils will be required. Also, all teachers of compensatory reading will receive questionnaires to update program characteristics previously reported.

3. Estimation Procedures

3.1 Estimation - Stage 1

Let $x^{(f)}_{ghi}$ = a characteristic of the i^{th} school in the h^{th} final stratum in the g^{th} major stratum.

$x^{(f)}_{ghi}$ might be a dichotomous variable, equalling 1 if a school had a given characteristic and zero otherwise. It could also be a sum of student scores, or the number of students tested, or the number of students in compensatory reading, etc.

$w^{(f)}_{ghi}$ = the weight with which the i^{th} school came into the sample.

If school i is an initial sample school, then $w^{(f)}_{ghi} = \bar{A}^{(f)}_{g} \,/\, 2A^{(f)}_{ghi}$. If school i is a substitute, $w^{(f)}_{ghi} = \bar{A}^{(f)}_{g} \,/\, 2A^{(f)}_{g'h'i'}$, where $A^{(f)}_{g'h'i'}$ is the measure of size of the substitute school.

Then, an estimate of the total of the characteristic for the entire universe is

$$x^{(f)'} = \sum_{ghi}{}' w^{(f)}_{ghi} x^{(f)}_{ghi} \left[\sum_{ghi} w^{(f)}_{ghi} \Big/ \sum_{ghi}{}' w^{(f)}_{ghi} \right]$$

where Σ' indicates summation over the schools that report.

A ratio of the characteristic X to the characteristic Y is found by

$$\hat{R}^{(f)} = x^{(f)'} / y^{(f)'}$$

where $y^{(f)'}$ is found from the formula for $x^{(f)'}$, above, by substituting y for x. Adding over Title I and nonTitle I strata, one obtains

$$x' = \sum_{f} x^{(f)'} \quad \text{and} \quad \hat{R} = \sum_{f} x^{(f)'} \Big/ \sum_{f} y^{(f)'}$$

It should be noted that substitution for schools that do not cooperate biases the results unavoidably. However, the rules chosen for substitution and for estimation are designed to reduce the impact of such biases.

Note also that if X is the characteristic "receives Title I funds", separate estimates are made for f = 1 and for f = 2 and then they are added together. Weights are assigned in accordance with the assignment of schools for stratification purposes, and not in accordance with their observed status as Title I or nonTitle I schools

3.2 Estimation of Variances - Stage I

Let $v^2_{x'}$ denote the estimated relvariance of the estimator x'. Then,

$$v^2_{x'} = \sum_{gh(r)} \left(x'_{ghl} - x'_{gh2}\right)^2_r \Big/ \left(x'_r\right)^2$$

where the subscript r denotes those final strata in which two schools report, and $x'_{ghi} = x_{ghi}\, w_{ghi}$ for the first school in the final stratum, and similarly for the second school. (For simplicity the superscript (f) has been dropped.) The estimated relvariance of the ratio x'/y' is

$$v^2(x'/y') = v^2_{x'} + v^2_{y'} - 2v_{x'y'}$$

where

$$v_{x'y'} = \frac{\sum_{gh(r)} \left(x'_{ghl} - x'_{gh2}\right)\left(y'_{ghl} - y'_{gh2}\right)}{x'y'}.$$

3.3 Estimation and Estimation of Variances - Stage II

First stage sample schools will be restratified for State II and two schools drawn from each new stratum. Since the probabilities of inclusion in Stage I (i.e., $1/w^{(f)}_{ghi}$ are known and the rules for drawing Stage II will also be known, it will be possible to attach a revised weight $w_{h'i}$ to each school drawn in the State II sample. Then, an estimator of a universe characteristic x is

$$x' = \sum_{h'i} w_{h'i}\, x_{h'i}$$

An estimate of the relvariance of x' is

$$v^2_{x'} = \sum_{h'i} \left(x'_{h'1} - x'_{h'2} \right)^2_r \Big/ (x'\,r)^2$$

and

$$v^2(x'/y') = v^2_{x'} + v^2_{y'} - 2v_{x'y'}$$

$$v_{x'y'} = \sum_{h'(r)} \frac{\left(x'_{h'1} - x'_{h'2} \right)_r \left(y'_{h'1} - y'_{h'2} \right)_r}{x'y'}$$

where the subscript r indicates that the computation is only to be made where two schools report in each final stratum.

APPENDIX A

SAMPLING UNIVERSE FILE STRUCTURE

1. Track: 7-track
2. Density: 556 BPI
3. Parity: Even
4. Label: Unlabelled
5. Record Size: 340 characters
6. Blacking factor: 10 records/block
7. Mode: Binary coded decimal (BCD)
8. Contents of records:

COLUMN	DESCRIPTION	CODE
1 - 2	State code	
3 - 7	School code	
8 -12	School district code	
13 -15	County code	
16	Title I	
	1 if Title I on Program Reference File or, if not in that file, federally funded compensatory program indicates on School Universe File; 0 otherwise	
17	Filler	
18 -19	Minority class code	
18	Data from OCR tape	1
	Data from county tape	2
19	Less than 5%	1
	5 - 9	2
	10 - 19	3
	20 - 39	4
	40 - 59	5
	60 - 79	6
	80 or more	7
	N. A.	8

COLUMN	DESCRIPTION	CODE
20	Degree of urbanization code	
	Large city, over 500K population	1
	Large city, 200K-500K population	2
	Suburb of a large city	3
	Rural area near a large city	4
	Middle-size city, 50K-200K population	5
	Suburb of a middle-size city	6
	Rural area near a middle-size city	7
	Small city or town, less than 50K population	8
	Rural area, not near a large or middle-size city	9
	No answer	0
21	Geographic division code	
	North East	1
	North Central	2
	South	3
	West	4
22 - 26	Adjusted average income from IRS 1966 ZIP Code file (Z_i)	
27 - 29	Percent minority	
30	Grade combinations	
	2, 4, 6 only	1
	2 only	2
	4 only	3
	6 only	4
	2, 4 only	5
	4, 6 only	6
31 - 34	Pupils in grade 2	
35 - 38	Pupils in grade 4	
39 - 42	Pupils in grade 6	
43 - 46	Pupils in grades 2, 4 and 6	
47 - 50	Pupils in all grades	
51 - 55	Median income from county data file (X_i)	

COLUMN	DESCRIPTION	CODE
56	Z_i classes	
	Less than $1,000	0
	$ 1,000 - $1,999	1
	$ 2,000 - $2,999	2
	$ 3,000 - $3,999	3
	$ 4,000 - $4,999	4
	$ 5,000 - $5,999	5
	$ 6,000 - $6,999	6
	$ 7,000 - $7,999	7
	$ 8,000 - $8,999	8
	$ 9,000 - $9,999	9
	$10,000 or more	+
	N.A.	-
57	X_i classes	
	Less than $1,000	0
	$ 1,000 - $1,999	1
	$ 2,000 - $2,999	2
	$ 3,000 - $3,999	3
	$ 4,000 - $4,999	4
	$ 5,000 - $5,999	5
	$ 6,000 - $6,999	6
	$ 7,000 - $7,999	7
	$ 8,000 - $8,999	8
	$ 9,000 - $9,999	9
	$10,000 or more	+
	N.A.	-
58 - 59	Probability of selection (A_i)	
60 - 61	Lowest grade in school	
62 - 63	Highest grade in school	
64 - 65	F.I.P.S.* state code	
66 - 68	F.I.P.S.* county code	
69 - 70	State abbreviation	
71 - 75	ZIP Code	

*Federal Information Processing Standards

COLUMN	DESCRIPTION	CODE
76 - 77	Population size code of county	
	Public schools in counties of:	
	Less than 5,000 population	61
	5,000 - 9,999 population	62
	10,000 - 24,999 population	63
	25,000 - 49,999 population	64
	50,000 - 99,999 population	65
	100,000 - 199,999 population	66
	200,000 or more population	67
	N.A.	68
78	Tax return code	
	<500	1
	500 - 1,999	2
	2,000 - 3,999	3
	4,000 or more	4
	N.A.	5
79	Data source	
	From 1969-70 school universe	9
	From 1970-71 ELSEGIS III-C	0
80	File type	
	Primary sample	1
	Substitute sample	3
81 - 110	School district name	
111 - 140	School name	
141 - 153	City	
154 - 175	Street address	
176 - 201	County name	
202 - 210	Number of class sections	
202 - 203	Grade 2	
204 - 205	Grade 4	
206 - 207	Grade 6	
208 - 209	Ungraded	
210	N.A.	

Westat Research, Inc.

MULTIPLE LAYOUT CARD FORM

CUSTOMER NAME ETS - Compensatory Reading

CONTROL NO. 0243

| USOE CODE | | |

NUMBER OF SCHOOLS WITH GRADES 2, 4 OR 6, WHICH HAVE TITLE I

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56

AVERAGE ADJUSTED GROSS INCOME (in $1,000)

% Minority CARD 1 COLUMN 19	1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	REJ	GRAND TOTAL
1 <5%	5	192	1081	2623	5603	4563	1689	755	263	16774	12	586	17372			17372
	4.72	78.05	36.21	38.90	52.04	55.52	51.20	59.68	64.94	49.29	37.50	42.65	49.02			49.02
2 5-9	7	10	202	530	1037	1018	475	162	70	3511	6	78	3595			3595
	6.60	4.07	6.77	7.86	9.63	12.39	14.40	12.81	17.28	10.32	18.75	5.68	10.14			10.14
3 10-19	20	5	253	728	903	860	430	165	41	3405	3	77	3485			3485
	18.87	2.03	8.48	10.80	8.39	10.46	13.03	13.04	10.12	10.00	9.38	5.60	9.83			9.83
4 20-39	12	1	352	981	1474	784	385	134	26	4149	10	64	4223			4223
	11.32	.41	11.79	14.55	13.69	9.54	11.67	10.59	6.42	12.19	31.25	4.66	11.92			11.92
5 40-59	2	4	337	566	646	389	155	26		2125	1	35	2161			2161
	1.89	1.63	11.29	8.39	6.00	4.73	4.70	2.06		6.24	3.13	2.55	6.10			6.10
6 60-79	19	14	206	368	319	216	60	6	2	1210		19	1229			1229
	17.92	5.69	6.90	5.46	2.96	2.63	1.82	.47	.49	3.56		1.38	3.47			3.47
7 80+	41	20	554	947	784	388	105	17	3	2859		70	2929			2929
	38.68	8.13	18.56	14.04	7.29	4.72	3.18	1.34	.74	8.40		5.09	8.26			8.26
8 NA												445	445			445
												32.39	1.26			1.26
9																
TOTAL (1-9)	106	246	2985	6743	10766	8218	3299	1265	405	34033	32	1374	35439			35439
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00			100.00
0																
Y																
X																
TOTAL (1-X)	106	246	2985	6743	10766	8218	3299	1265	405	34033	32	1374	35439			35439
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00			100.00
REJECTS																
GRAND TOTAL	106	246	2985	6743	10766	8218	3299	1265	405	34033	32	1374	35439			35439
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00			100.00
MEAN	5.09	1.93	3.50	3.19	2.50	2.22	2.22	1.89	1.64	2.60	2.44	4.05	2.66			2.66
ST DEV	1.03	1.48	2.33	2.20	1.93	1.74	1.60	1.32	1.07	1.99	1.37	3.14	2.06			2.06

NUMBER OF PUPILS IN GRADES 2, 4, 6 IN SCHOOLS WHICH HAVE TITLE I

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56 — AVERAGE ADJUSTED GROSS INCOME (in $1,000)

% Minority (CARD 1 COLUMN 19)	CARD 1 COLUMN 56: 1 1-1.9	2 2-2.9	3 3-3.9	4 4-4.9	5 5-5.9	6 6-6.9	7 7-7.9	8 8-8.9	9 9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	REJ	GRAND TOTAL
1 < 5%	400	18899	116350	280696	677113	679477	324930	164908	60235	2323608		2931	99808	2426347		2426347
	4.64	64.82	25.42	25.70	40.06	48.63	49.65	60.65	65.96	40.91		41.47	42.33	40.87		40.87
2 5-9	905	1451	26966	71540	151270	171189	92149	34473	15957	565900		1026	13852	580778		580778
	10.50	4.98	5.89	6.55	8.95	12.25	14.09	12.68	17.30	9.94		14.52	5.87	9.78		9.78
3 10-19	3629	965	38492	117214	166033	163704	92427	37778	9339	629381		700	16276	646357		646357
	33.79	3.31	8.41	10.73	9.82	11.72	14.12	13.89	10.13	11.05		9.90	6.90	10.89		10.89
4 20-39	1408	68	55269	186476	297657	163315	83020	26406	5120	818739		2262	11649	832650		832650
	16.33	.23	12.09	17.07	17.61	11.69	12.69	9.71	5.55	14.38		32.00	4.94	14.03		14.03
5 40-59	315	1016	58511	105042	122130	80562	31398	4608		403582		149	6960	410691		410691
	3.65	3.48	12.79	9.62	7.23	5.77	4.80	1.69		7.09		2.11	2.95	6.92		6.92
6 60-79	402	2009	39562	65864	68147	44052	11832	1081	436	234384			2719	237103		237103
	4.66	6.89	8.64	6.03	4.03	3.22	1.81	.40	.47	4.12			1.15	3.99		3.99
7 80+	1761	4751	122481	265273	207609	94079	18674	2653	537	717908			11998	729906		729906
	20.43	16.29	26.76	24.29	12.29	6.73	2.85	.98	.58	12.61			5.09	12.30		12.30
9 NA													72518	72518		72518
													30.76	1.22		1.22
0																
Y																
X																
TOTAL (1-9)	8620	29158	457631	1092105	1690004	1397278	654430	271907	92224	5693402		7068	235780	5936250		5936250
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
TOTAL (1-X)	8620	29158	457631	1092105	1690004	1397278	654430	271907	92224	5693402		7068	235780	5936250		5936250
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
REJECTS																
GRAND TOTAL	8620	29158	457631	1092105	1690004	1397278	654430	271907	92224	5693402		7068	235780	5936250		5936250
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
MEAN	4.00	2.58	4.14	3.94	3.84	2.50	2.26	1.84	1.60	3.00		2.39	3.98	3.04		3.04
ST DEV	1.82	2.43	2.34	2.29	2.12	1.88	1.59	1.25	1.02	2.13		1.35	3.09	2.19		2.19

AGGREGATES OF MEASURE OF SIZE OF SCHOOLS WHICH HAVE TITLE I

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56

AVERAGE ADJUSTED GROSS INCOME ($1,000)

CARD 1 COLUMN 56

% Minority CARD 1 COLUMN 19	1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	REJ	GRAND TOTAL
1 <5%	40	1969	11735	28415	66423	62616	27768	13547	4966	217384	232	8773	226389	226389		226389
	4.39	70.97	28.89	30.16	44.47	51.10	50.37	60.09	65.98	43.88	38.80	42.18	43.80	43.80		43.80
2 5-9	94	116	2519	6670	13747	15256	7783	2911	1314	50410	98	1237	51745	51745		51745
	10.30	4.18	6.20	7.08	9.20	12.47	14.12	12.91	17.46	10.17	16.39	5.95	10.01	10.01		10.01
3 10-19	307	76	3464	10369	14141	13964	7564	3054	759	53598	58	1362	55018	55018		55018
	33.61	2.74	8.53	11.00	9.47	11.33	13.72	13.55	10.08	10.82	9.70	6.55	10.64	10.64		10.64
4 20-39	138	9	4935	15489	24436	13415	6818	2278	396	67913	196	1011	69120	69120		69120
	15.12	.32	12.15	16.44	16.36	10.96	12.37	10.10	5.26	13.71	32.78	4.86	13.37	13.37		13.37
5 40-59	28	80	5116	8934	10286	6624	2602	406		34076	14	593	34683	34683		34683
	3.07	2.88	12.60	9.48	6.89	5.41	4.72	1.80		6.88	2.34	2.85	6.71	6.71		6.71
6 60-79	76	192	3243	5699	5493	3624	994	90	44	19455		253	19708	19708		19708
	8.32	6.92	7.98	6.05	3.68	2.96	1.80	.40	.58	3.93		1.22	3.81	3.81		3.81
7 80+	230	332	9602	18643	14843	7052	1603	258	48	52617		1045	53662	53662		53662
	25.19	11.97	23.64	19.79	9.94	5.76	2.91	1.14	.64	10.62		5.02	10.38	10.38		10.38
8 NA													6525	6525		6525
													31.37	1.26		1.26
9																
TOTAL (1-9)	913	2773	40614	94225	149374	122351	55132	22544	7527	495453	598	20799	516850	516850		516850
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00
0																
Y																
X																
TOTAL (1-X)	913	2773	40614	94225	149374	122351	55132	22544	7527	495453	598	20799	516850	516850		516850
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00
REJECTS																
GRAND TOTAL	913	2773	40614	94225	149374	122351	55132	22544	7527	495453	598	20799	516850	516850		516850
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00
MEAN	4.39	2.29	3.92	3.65	2.83	2.39	2.24	1.86	1.60	2.84	2.43	4.01	2.88	2.88		2.88
ST DEV	1.92	2.34	2.35	2.26	2.05	1.83	1.59	1.39	1.03	2.07	1.35	3.11	2.14	2.14		2.14

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56

AVERAGE ADJUSTED GROSS INCOME (in $1,000)

% Minority CARD 1 COLUMN 19	CARD 1 COLUMN 56 1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	REJ	GRAND TOTAL
1 <5%	27	35	473	1637	3676	4569	2603	1613	732	15365		80	549	15994		[illegible]
	14.29	66.04	45.57	53.97	54.34	59.21	53.08	58.46	73.72	56.14		70.18	42.46	55.58		[illegible]
2 5-9	12	2	80	307	937	1022	816	485	116	3677		6	99	3782		[illegible]
	6.35	3.77	7.71	10.12	13.37	13.24	16.92	17.58	11.68	13.43		5.26	7.66	13.14		[illegible]
3 10-19	21	2	103	361	844	908	706	359	74	3378		26	76	3480		3480
	11.11	3.77	9.93	11.90	12.49	11.77	14.64	13.01	7.45	12.34		22.81	5.83	12.09		12.09
4 20-39	50	2	162	298	789	739	469	245	58	2812		2	47	2861		2861
	26.46	3.77	15.61	9.83	11.66	9.58	9.73	8.89	5.84	10.27		1.75	3.63	9.94		9.94
5 40-59	21	2	105	161	271	225	117	33	5	940			24	964		964
	11.11	3.77	10.12	5.31	4.01	2.92	2.43	1.20	.50	3.43			1.86	3.35		3.35
6 60-79	21	10	45	74	122	128	39	10	1	450			9	459		459
	11.11	18.87	4.34	2.44	1.80	1.66	.81	.36	.10	1.64			.70	1.60		1.60
7 80+	37		70	195	226	126	72	14	7	747			55	802		802
	19.59		6.74	6.43	3.34	1.63	1.49	.51	.70	2.73			4.25	2.79		2.79
8 NA													434	434		434
													33.57	1.51		1.51
A-9 9																
TOTAL (1-9)	189	53	1038	3033	6765	7717	4822	2759	993	27369		114	1293	28776		28776
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
0																
Y																
X																
TOTAL (1-X)	189	53	1038	3033	6765	7717	4822	2759	993	27369		114	1293	28776		28776
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
REJECTS																
GRAND TOTAL	189	53	1038	3033	6765	7717	4822	2759	993	27369		114	1293	28776		28776
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
MEAN	4.25	2.32	2.77	2.35	2.17	1.95	1.98	1.80	1.51	2.07		1.55	4.02	2.16		2.16
ST DEV	1.98	2.05	1.97	1.84	1.61	1.43	1.34	1.15	1.02	1.53		.90	3.16	1.69		1.69

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56

AVERAGE ADJUSTED GROSS INCOME (in $1,000)

% Minority CARD 1 COLUMN 19	CARD 1 COLUMN 56 1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	REJ	GRAND TOTAL
1 <5%	242	2078	21495	85020	357555	659326	525535	363420	176966	2194546	20852	103116		2317714		2317714
	5.36	32.50	21.37	26.09	38.10	50.41	52.27	58.54	75.24	48.17	72.58	43.73		48.09		48.09
2 5-9	659	226	9604	34320	116933	179448	167587	108841	26896	644514	1691	18450		664655		664655
	14.61	3.53	8.74	10.42	12.40	13.72	16.67	17.53	11.43	14.15	6.12	7.82		13.79		13.79
3 10-19	735	445	13421	58949	160619	189194	150310	84667	15904	674844	5607	16349		696800		696800
	16.29	6.96	12.21	17.90	17.15	14.47	15.01	13.64	6.76	14.81	20.29	6.93		14.46		14.46
4 20-39	1172	970	22839	54708	157406	158265	108416	51287	12851	567914	278	9308		577500		577500
	25.93	15.17	20.77	16.61	16.81	12.10	10.78	8.26	5.46	12.47	1.01	3.95		11.98		11.98
5 40-59	687	311	16718	29333	51860	55436	27719	8290	633	190987		5055		196042		196042
	15.23	4.86	15.21	8.91	5.54	4.24	2.76	1.34	.27	4.19		2.14		4.07		4.07
6 60-79	336	2364	6782	11770	26724	30648	8559	2023	148	89358		1888		91246		91246
	7.45	36.97	6.17	3.57	2.86	2.34	.85	.33	.06	1.96		.80		1.89		1.89
7 80+	681		17089	54277	65243	35554	16723	2311	1814	193692		11338		205030		205030
	15.09		15.54	16.48	6.97	2.72	1.66	.37	.77	4.25		4.81		4.25		4.25
8 NA													70291	70291		70291
													29.81	1.46		1.46
9																
TOTAL (1-9)	4512	6394	109948	329277	936344	1307871	1005449	620848	235212	4555855	27628	235795		4819278		4819278
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00		100.00
0																
X																
X																
TOTAL (1-X)	4512	6394	109948	329277	936344	1307871	1005449	620848	235212	4555855	27628	235795		4819278		4819278
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00		100.00
REJECTS																
GRAND TOTAL	4512	6394	109948	329277	936344	1307871	1005449	620848	235212	4555855	27628	235795		4819278		4819278
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00		100.00
MEAN	4.14	3.67	3.90	3.48	2.75	2.24	2.04	1.79	1.47	2.33	1.50	3.84		2.40		2.40
ST DEV	1.74	2.13	2.04	2.10	1.81	1.58	1.38	1.13	.99	1.66	.85	3.09		1.79		1.79

AGGREGATES OF MEASURE OF SIZE OF SCHOOLS WHICH DO NOT HAVE TITLE I

CARD 1 COLUMN 19 BY CARD 1 COLUMN 56

AVERAGE ADJUSTED GROSS INCOME (in $1,000)

CARD 1 COLUMN 56

% Minority CARD 1 COLUMN 19	1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	TOTAL (1-9)	0	10+	NA	TOTAL (1-X)	RE-1	TOTAL
1 < 5%	113	254	3097	11303	36869	60450	43417	29360	13850	198718		1553	8933	209204		
	12.34	42.91	29.03	35.87	43.56	53.55	52.88	58.54	74.49	50.68		72.06	43.66	50.45		
2 5-9	84	28	945	3305	10492	15440	13757	8882	2162	55095		116	1614	56825		
	9.17	4.73	8.86	10.48	12.40	13.68	16.76	17.71	11.63	14.05		5.38	7.89	13.70		13.70
3 10-19	125	44	1202	5127	13376	15336	12189	6713	1311	55423		459	1349	57230		
	13.65	7.41	11.27	16.26	15.80	13.58	14.85	13.39	7.05	14.14		21.25	6.59	13.80		13.80
4 20-39	243	57	2072	4591	12945	12771	8561	4174	1062	46576		28	756	47360		
	26.53	9.61	19.42	14.56	15.29	11.31	10.55	8.32	5.71	11.88		1.30	3.69	11.42		11.42
5 40-59	109	31	1492	2402	4216	4163	2114	625	55	15207			402	15609		
	11.90	5.24	13.98	7.62	4.98	3.69	2.57	1.25	.30	3.88			1.96	3.76		3.76
6 60-79	89	178	606	1031	2194	2324	654	186	14	7270			148	7418		
	9.72	30.07	5.68	3.27	2.59	2.06	.80	.36	.08	1.85			.72	1.79		1.79
7 80+	153		1256	3765	4550	2406	1312	219	138	13799			930	14729		
	16.70		11.77	11.94	5.38	2.13	1.60	.44	.74	3.52			4.55	3.55		3.55
8 NA													6329	6329		6329
													30.93	1.53		1.53
9																
TOTAL (1-9)	916	592	10670	31529	84642	112890	82104	50153	18592	392088		2155	20461	414704		414704
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
0																
Y																
X																
TOTAL (1-X)	916	592	10670	31529	84642	112890	82104	50153	18592	392088		2155	20461	414704		414704
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
REJECTS																
GRAND TOTAL	916	592	10670	31529	84642	112890	82104	50153	18592	392088		2155	20461	414704		414704
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		100.00	100.00	100.00		100.00
MEAN	4.12	3.20	3.45	3.05	2.55	2.13	2.02	1.79	1.49	2.24		1.52	3.87	2.32		2.32
ST DEV	1.99	2.18	2.05	2.05	1.76	1.52	1.36	1.13	1.00	1.61		.87	3.11	1.75		1.75

APPENDIX B

ASSIGNMENT OF MEASURES OF SIZE

Measures of size have been assigned so as approximately to optimize the design, that is, to maximize the amount of information for a fixed cost. The optimization process involves using an estimated cost function which contains a cost of including a school in the sample and a cost per pupil of conducting the study. It also involves some estimates of the expected sampling variations.

Measures of size were studied in detail by Westat in the design of the Anchor test under another subcontract to ETS. That work has been reviewed carefully for its applicability to the compensatory reading study. After thorough investigation we have decided to use those results and have included as part of this appendix a memorandum prepared for the Anchor test study which spells out the theory involved.

The Anchor study concerns pupils in grades 4, 5 and 6 while the compensatory reading study concerns grades 2, 4 and 6. There appears to be no reason why this difference should have any effect on the conclusions.

Also, the compensatory reading study calls for a survey of schools in Stage I which is to be followed in Stage II by a testing program. This calls into question the use of the Anchor Test optimization which is based only on a testing program. That is, in Stage I of the compensatory reading study there is no per pupil cost of the survey. However, the most expensive part of the compensatory reading study is the testing portion, so it makes sense to optimize the measures of size for that portion of the study. Furthermore, even in the Stage I survey the cost will vary with the number of teachers involved in compensatory reading and that number will be correlated with number of pupils.

For these reasons, the theoretical results derived for the Anchor test have been determined to be applicable here. The measures of size, based upon the enclosure are as follows:

Enrollment in grades 2, 4 and 6	Measure of size
Under 50	4
50 - 99	9
100 - 199	14
200 - 499	22
500+	35

Attachment - Appendix B

Westat Research, Inc.

Memorandum W-4*

TO John Bianchini, ETS

DATE: August 6, 1971

FROM: Westat, Inc.
(MHH)

SUBJECT: Allocation of the standardization test to size of school strata

This memorandum examines for the standardization study the implications of the distribution of schools by numbers of students in the eligible grades (4-6) on the allocation of the sample. We hope you will look critically at the assumptions for computations of variances and costs, and the results obtained, and give us any comments as early as feasible.

The tentative data used in this memorandum on the size distribution of schools were derived from the 1968-69 school universe tape. Similar and additional results will be available later from the 1970-71 school universe tape for use in actual sample selection. The results presented in this memorandum may be altered substantially in the details, but not in their general character, as a result of the revisions that will be made with improved data.

This memorandum deals only with the implications of the size distribution of schools, and ignores other questions such as the succession of grades in the same school or different schools, the implications of which will be considered in a subsequent memorandum.

Since all students in the specified grades within the selected schools will be administered the anchor test, both the contribution to variance of an average test score or percentile, and the cost of including a school in the sample will be substantially influenced by the size of the eligible enrollment in a school. In this situation, strata based on size of schools may be desirable, along with the use of other stratification criteria to be considered

* Revised 12/30/71

in a later memorandum. The size of a school is the number of students in it in grades 4, 5, and 6, and it should be feasible to approximate this based on the information on the 1970-71 school universe tape. There will be no bias, but a larger variance, if the approximation to the number of pupils eligible to take the test in April 1972 is not a reasonably good one for some of the schools.

The theory.* The percentile to be estimated is T_P, the test score such that the desired proportion P of pupils has a test score less than T_P, with

$$P = \frac{A}{X},$$

where

A is the total number of pupils in the specified grade in the universe of schools that have expected scores less than T_P, and

X is the total number of pupils in the specified grade.

We can estimate T_P from the sample by finding t_P, the score such that $P = A'/X'$ is the desired proportion observed in the sample,

where

X' is the sample estimate of the total eligible pupils in the specified grade, and

A' is the sample estimate of the number of these pupils with scores less than t_P.

For a stratified sample with the schools within a stratum selected with equal probability, and with the test given to all eligible students in each selected school, the sample estimates, A' and X', are here assumed to be of the form

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* See Hansen, Hurwitz and Madow, Sample Survey Methods and Theory, Vol. I, pp. 179-237 and 448-449.

$$A' = \sum_{h}^{L} \frac{N_h}{n_h} \sum_{i}^{n_h} a_{hi}, \text{ and}$$

$$X' = \sum_{h}^{L} \frac{N_h}{n_h} \sum_{i}^{n_h} x_{hi},$$

where

N_h is the total number of schools in stratum h,

n_h is the number of schools in the sample from stratum h,

a_{hi} is the number of eligible students in the i^{th} sampled school in stratum h with scores less than t_P,

x_{hi} is the number of eligible students in school hi , and

L is the number of strata.

In practice, the population frequency distribution of scores is estimated from the sample by estimating frequencies for scores or intervals of scores, using the same type of formula as that above for A'. Then, percentiles are easily estimated from the estimated cumulative frequency distribution by interpolation.

Confidence limits can be computed for T_P, based on the standard deviation σ_p of the sample estimate, p, of the proportion of students who score less than T_P. This proportion p is a ratio-type estimate with variance*

$$\sigma_p^2 \doteq \frac{1}{\bar{X}^2} \sum_{h}^{L} \frac{N_h^2}{N^2} \frac{N_h - n_h}{N_h} \frac{S_{Ph}^2}{n_h},$$

* See Ibid., p. 190, equation (4.5), and the remark on p. 193.

where

$$S_{Ph}^2 = \sum_i^{N_h} (Z_{hi} - \bar{Z}_h)^2 / (N_h - 1),$$

$$Z_{hi} = A_{hi} - PX_{hi},$$

$$\bar{Z}_h = \sum_i^{N_h} Z_{hi}/N_h,$$

A_{hi} = the number of eligible students in school i of stratum h with a test grade below the percentile T_P (the population parameter), and

X_{hi} = the total number of eligible students in school i of stratum h.

The upper and lower confidence bounds, t_{P_U} and t_{P_L}, for a 68 percent confidence interval for the percentile T_P will be approximately the sample estimates of the $P_U{}^{th}$ and $P_L{}^{th}$ percentiles, where*

$$P_U = P + \sigma_p, \text{ and}$$

$$P_L = P - \sigma_p.$$

An approximate cost function for a stratified sample of the type proposed for the standardization study, with all eligible students in a sampled school taking the test, is

$$C = C_0 + \sum_h^L \bar{C}_h n_h ,$$

where

C_0 represents costs that do not vary with the number or sizes of the schools in the sample, and

$\bar{C}_h$ is the average cost associated with each school included in the sample in size class h.

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* See Ibid., pp. 448-449.

The maximum precision of results will be achieved for a given number of schools in the sample of schools if the sample is allocated to the size strata such that the sample from the h^{th} size class is*

$$n_h = n \frac{N_h S_{Ph} / \sqrt{\bar{C}_h}}{\sum_h^L N_h S_{Ph} / \sqrt{\bar{C}_h}} .$$

Here we make the assumption that, for any percentile T_P,

$$S_{Ph} \doteq k_P S_h ,$$

where expressions for k_P and S_h will be derived later. Under this assumption, the expression for the optimum n_h becomes

$$n_h = n \frac{N_h S_h / \sqrt{\bar{C}_h}}{\sum_h^L N_h S_h / \sqrt{\bar{C}_h}} .$$

The approximation $S_{Ph} \doteq k_P S_h$ implies that the S_{Ph} vary in the same relative manner between the size strata, for any percentile. When this holds, the optimum allocation of the sample will be the same for the estimation of each percentile. The basis for this assumption will be indicated later.

In practice we do not know the S_h in advance of obtaining the sample survey results, but can often develop reasonably good approximations to them, as demonstrated later. Also we can, at best, only approximate the cost function. Nevertheless, even very rough approximations can be highly useful in arriving at an approximately optimum allocation of the sample which is good enough for the purpose.

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* See Ibid., p. 221.

There is no bias in the sample if the approximations are in error, although the variance is somewhat larger than it would be with the values known. However, unless the estimated gains from optimum allocation to strata are substantial and the approximations used are in the right direction, it may be desirable to use uniform fractions, since the effort to accomplish an optimum allocation could achieve a loss over proportionate sampling, instead of a gain.

It should be noted that optimum allocation can be achieved by varying the sampling fractions between strata, or, alternatively, by varying the numbers of additional strata to be introduced within size strata to achieve the same effect when two units are to be included in the sample from each stratum. We propose to do the latter by using additional stratification, on other variables, within the size strata.* Under some circumstances the gains from an approximate optimum allocation can be substantial over selecting a proportionate sample.

We shall now obtain approximate values for S_h and $\bar{C}_h$. Actually, as can be seen from the formula for the optimum n_h, it isn't necessary to obtain the absolute values, but only numbers proportionate to them, in order to allocate the sample in an optimum manner.

Approximate values for the cost function.

In the standardization study a tentative approximate value for $\bar{C}_h$ is given by $\bar{C}_h = 100 + .85\,\bar{E}_h$ dollars,

where

$\bar{E}_h$ is the average number of tests to be administered to eligible pupils per school in size class h.

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* It was finally decided not to use size as a stratification variable, but to achieve approximate optimum allocation to size classes by sampling with probability proportional to a measure of size. This allowed further stratification by other important variables, such as income and percent minority. The measures of size used were based on the optimum allocation indicated in Table 2 below.

(Note that $\bar{E}_h$ is the average per school of all eligible pupils in grades 4, 5, and 6 combined, and is different from $\bar{X}_h$, which is the average number per school of pupils in a specified grade for which a percentile is to be estimated. The $\bar{X}_h$ appears in the variance approximations and the $\bar{E}_h$ in the cost function.)

The values assumed in this cost function are the ones we discussed here on a very tentative basis, and should be reviewed critically. The $100 is the fixed cost for each school in the sample, independent of the number of tests administered. It is based on a fixed fee of $40 to be paid to a coordinator in each sampled school, plus other costs speculated to be of the order of $60, including the costs of obtaining cooperation of a school in the survey, the costs of providing instructions and controls, and other costs that vary directly with the number of schools included in the sample. The $.85\ \bar{E}_h$ in the cost function is the allowance for the number of tests to be administered in the school. The .85 is the unit cost estimate that you provided us and we understand is also included in the contract as representing the variable costs that depend on the number of pupils tested. The differences in the sample design will not be seriously affected if this fixed cost per school included in the sample is off by as much as, say, 25 percent. We hope that you will re-examine it and suggest an alternative level if you feel it is appropriate.

Approximate values for the variances, S_{Ph}^2. We understand from the analyses of data assembled in the Coleman report* and from other sources that the proportion of students with scores less than T_P does not vary widely between size classes of schools. If we make this assumption, then

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* A Study of Our Nation's Schools by George Mayeske et al (a U. S. Office of Education working paper analyzing the data collected for the Coleman report).

$$P_h = \frac{\sum^{N_h} A_{hi}}{\sum^{N_h} X_{hi}} \doteq P$$

for each of the size classes. Under this assumption, $\bar{Z}_h = 0$, and therefore the S_{Ph}^2 (defined earlier) becomes

$$S_{Ph}^2 \doteq \Sigma Z_{hi}^2 / (N_h - 1)$$

$$= \Sigma (A_{hi} - PX_{hi})^2 / (N_h - 1)$$

$$= \Sigma X_{hi}^2 (P_{hi} - P)^2 / (N_h - 1),$$

where

$$P_{hi} = A_{hi}/X_{hi}.$$

Moreover, for schools of size X_{hi}, the expected value of $(P_{hi} - P)^2$ is

$$E(P_{hi} - P)^2 = \frac{PQ}{X_{hi}} \left\{1 + \rho_{Phi} (X_{hi} - 1)\right\},$$

where

$$\rho_{Phi} = \frac{E(Y_{Phij} - P)(Y_{Phij}' - P)}{E(Y_{Phi} - P)^2},$$

Y_{Phij} = 1 if the j^{th} pupil in the specified grade of school i, size-class h, has a score below T_P,

= 0 otherwise,

Y_{Phij}' is the corresponding value for any <u>other</u> pupil in the same grade of the same school, and

$P_h = \sum_i \sum_j Y_{hij} / \sum_i X_{hi} = \sum_i A_{hi} / \sum_i X_{hi}$ is the average value of Y_{hij}, i.e., the proportion of students in this stratum with scores less than T_P.

In the above equation, ρ_{Phi} is intraclass correlation of the Y_{Phi}, among pupils within schools, for schools of size X_{hi}.

Another way of stating ρ_{Phi} in terms of the total variance between pupils and the variance between school means is

$$\rho_{Phi} = \frac{\sigma_b^2 - \sigma^2 / X_{hi}}{\sigma^2} \frac{X_{hi}}{X_{hi} - 1},$$

where

X_{hi} is the size of the grade in the hi^{th} school,

σ^2 is the total variance between pupils, and

σ_b^2 is the variance between school means.

The subtractive term in the numerator will be negligible when X_{hi} is reasonably large.

We will now assume that the intraclass correlation, ρ_{Phi}, takes on approximately the same value, ρ_P, for each size of school. Actually, experience shows us for many different variables that on the average the intraclass correlation for clusters of different sizes ordinarily decreases slowly as size of cluster increases. We may later modify the assumption made above of essentially equal intraclass correlation for each size of cluster, but the discussion is simplified by making the assumption here, and possibly modifying it somewhat later.

With the above assumption, and substituting X_{hi} for $X_{hi} - 1$, the expression for $E(P_{hi} - P)^2$ is then approximately

$$E(P_{hi} - P)^2 \doteq \frac{PQ}{X_{hi}} (1 + \rho_P X_{hi}).$$

If the above expression is substituted for $(P_{hi} - P)^2$ and if N_h is substituted for $N_h - 1$, the equation for S_{Ph}^2 becomes

$$S_{Ph}^2 \doteq PQ \Sigma X_{hi} (1 + \rho_P X_{hi}) / N_h$$

$$= PQ\left\{\bar{X}_h + \rho_P \bar{X}_h^2 (1 + V_h^2)\right\},$$

where

V_h^2 = the relvariance among schools within size stratum h of enrollment in the particular grade for which a percentile is computed.

If we now make, at least for the present, the further assumption that ρ_P is the same for all percentiles (i.e., $\rho_P = \rho$), we have

$$S_{Ph}^2 = PQ\left[\bar{X}_h + \rho \bar{X}_h^2 (1 + V_h^2)\right].$$

There is a limited amount of data available in an unpublished memorandum in the Office of Education files to support the above assumption.*

We now have the evidence for the assumption made earlier where we assumed that we could approximate S_{Ph} by $k_P S_h$. In the result we have just obtained the value of k_P is $\sqrt{PQ}$, and

$$S_h = \sqrt{\bar{X}_h + \rho \bar{X}_h^2 (1 + V_h^2)}.$$

Computations. We shall now apply these results to approximate data obtained in the tabulation of the 1968-69 school universe tape referred to earlier.

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* For SAT scores for sixth graders in a recent study in Palo Alto, Calif., the Office of Education examined the variance between students of the Y_{ij} variable (defined above on page 8) for the 10th, 50th, and 90th percentiles. For each of these percentiles, the variance between schools was about 1/3 of the total variance between students. Hence, the intraclass correlation ρ_p was approximately equal to 1/3 for each of these percentiles.

Table 1 shows, by size class of combined enrollment in grades 4, 5, and 6, estimates of the number of schools, total combined enrollment in grades 4, 5, and 6, average enrollment in the combined classes, and a rough estimate of the enrollment per grade. It also shows an approximate value for $1 + V_h^2$. The V_h^2 values were not computed from the data but were roughly approximated from the width of the class intervals and the means for the size distributions of enrollment given in Table 1. Nevertheless, they are likely to be reasonably good approximations.

Table 2 shows the optimum allocation of the sample and compares it with proportionate allocation for a sample of 1,200 schools. We have carried this computation through for two values of ρ: ρ = .15 and = .20. The use of values of .15 and .20 for ρ are based on information you sent me in your memorandum of August 4, for STEP Series II Reading. Those results are also consistent with results given by Angoff* in which he reported a variance between school mean enrollments equal to approximately 25 percent of the variance between pupils. The ratio of between-school variance to total variance of 25 percent would yield an intraclass correlation of .25.

The results summarized in A Study of Our Nation's Schools, cited earlier, show approximately 35 percent of the total variance accounted for by schools. This variance is presented as an upper-limit estimate, and, again, is for an achievement measure and not just reading. They report essentially the same proportion of variance accounted for by schools for each of the grades studied.

For these computations we have assumed that stratification of schools would have the effect of reducing the proportion of total variance

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* Educational Measurement (2nd Edition), edited by Robert L. Thorndike. American Council on Education, 1971. Chapter 15.

accounted for by between-school variance to the alternate assumed levels of .20 and .15. From the evidence in A Study of Our Nation's Schools it seems clear that reductions of this order of magnitude and, in fact, considerably greater could be achieved if we had adequate variables for use in stratification or estimation which are related to average economic and social characteristics of the families served by the schools. Also, information on an individual school basis concerning average characteristics of teachers and schools would be helpful for stratification. Discussion of the stratification or estimation potentials will be the subject of another memorandum. Here we simply assume that we can have some substantial gains from stratification, including what can be accomplished prior to selecting the sample or introduced subsequently in the estimation process. Consequently, we have chosen the indicated assumed values for the intraclass correlation.

Results

From Table 2 it is seen that if $\rho = .20$, the variance (x k) for a sample of 1,200 schools is reduced from .930 for proportionate allocation of the sample to .731 for optimum allocation, but at an increase in variable costs of from $297,000 to $360,000. The gain is relatively more than the increase in cost, but not strikingly so. Thus, if the proportionate sample were increased in size from 1,200 schools to 1,450, the cost of the proportionate sample would be the same as a sample of 1,200 schools with optimum allocation. The variance (x k) for a proportionate sample of this size would be .766. Thus we see that for a given size of sample there is a substantial reduction in variance, but for equal costs the gain is a moderate one of approximately 5 percent.

A consequence of using optimum allocation instead of proportionate allocation is a substantial decrease in the number of smaller schools in the sample, and a corresponding increase in the larger schools. The result

is an increase from an average of 67* persons per school to be tested to 91 students per school to be tested.** This, of course, is the cause of the increase in cost for the optimum allocation of the sample.

In practice we will not know the standard deviation exactly, and the gain from optimum allocation will be somewhat less than we have estimated. However, in the nature of this problem, there are reasons to assume that we should be able to approximate the optimum reasonably well.

As seen in Table 2, the results for $\rho = .15$ are essentially similar to those for $\rho = .20$, but with considerably smaller variances as a result of the reduced correlation.

We need to arrive at an early decision on the basis of these results and other considerations, or possibly on the basis of revisions of these results if you have suggestions on the cost function or other assumptions we have made.

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* This figure was not developed from our tabulations, but was obtained from another source.

** From the data used in this analysis the estimated average size of school for proportionate sampling was 57.7, and for optimum allocation with $\rho = .20$ was 78.3. The estimate of 91 was obtained by computing 67 x 78.3/57.7.

Table 1. Preliminary size distribution of public schools based on enrollment in grades 4, 5, and 6.*

School size class (combined enrollment in grades 4, 5 and 6)	Schools		Total enrollment in grades 4, 5 and 6	Average enrollment per school, grades 4, 5 and 6	Average enrollment per grade (rough)	$1 + V_h^2$ where V_h^2 = relvariance of enrollment
	Number N_h	Percent of total	E_h	$\bar{E}_h$	$\bar{X}_h$	
Less than 50	11,537	18	247	21	7	1.36
50-99	10,584	16	798	75	25	1.03
100-199	18,667	29	2,782	149	50	1.03
200-499	22,347	35	6,505	291	97	1.06
500-999	1,293	2	775	617	206	1.10
1,000 +	29	.04	41			
Totals	64,457	100	11,147			

* These results were obtained by using 1968-69 school tapes, for schools containing grades 4, 5 or 6, and imputing grade enrollments by assuming that the enrollment in grades 4, 5, and 6 contained in a school is $\frac{g}{t}e$, where

g is the number of grades 4, 5, and 6 in the school,

t is the number of grades 1-12 in the school, and

e is the enrollment in these grades.

The $\bar{X}_h$ was approximated simply as $\bar{E}_h/3$.

Attachment - Appendix B

Table 2. Comparison of allocations of the sample, variances and costs

School size class	Number of schools N_h	Number of schools in sample, n_h, for alternative allocations		
		Optimum allocation		Proportionate allocation
		$\rho = .20$	$\rho = .15$	
Less than 50	11,537	49	55	215
50-99	10,584	114	119	197
100-199	18,667	348	345	348
200-499	22,347	630	622	416
500 +	1,322	60	60	25
Totals	64,457	1,200	1,200	1,200
Variance (x k) of estimated norm for sample of 1,200** schools		.731	.564	$\rho = .20$ .930 $\rho = .15$ .715
Variable cost ($1,000)		398	395	325
Average number of pupils in sample per grade per school in sample*				

* Only the ratios of these numbers were obtained from this study. They are adjusted to an assumed average of 67 for all schools.

** The values in the table are computed as

$$\Sigma \frac{N_h^2}{N^2} \quad \frac{N_h - n_h}{N_h} \quad \frac{S_h^2}{n_h} \quad .$$

Therefore, since $S_{Ph}^2 = PQS_h^2$, the variance, σ_p^2, for a particular percentile T_P, can be obtained approximately by multiplying the tabled value by

$$\frac{PQ}{\bar{X}^2} \quad .$$

APPENDIX C

SUPPLEMENTARY SAMPLE OF SCHOOLS

The supplementary sample of schools is intended to provide a known chance for schools not on the master sampling file (see Appendix A) to be drawn into the sample. A sample of school districts is required. Then, an up to date listing of schools with grades 2, 4 or 6 in the sampled districts will be obtained and compared against the master list. A sample of those not on the master list will constitute the supplementary sample.

Since some contact will have been made with the school districts having schools in the initial sample, there will be some economy in restricting the supplementary sample to those districts. In order to make this practice feasible it is necessary to determine the probability with which each district appears in the initial sample.

The sample supplementation procedures for new schools or schools not identified on the source lists as having grades 2, 4, or 6 will include the steps listed below:

1. The probabilities of selection for each school district falling into the initial sample will be computed as follows:

   (a) Assemble the $A_h = \sum_{i}^{N_{hd}} A_{hi}$ for the 360 final strata defined in drawing the sample, where the subscript h identifies a final stratum without regard to Title I status or major stratum, the subscript d identifies the district, and N_{hd} is the number of schools in district d in stratum h.

   (b) Assemble for each school district represented by one or more schools in the initial sample

$$A_{hd} = \sum^{N_{hd}} A_{hi} ,$$

where

N_{hd} is the number of schools in school district d that are in final stratum h, and

d designates a school district from which at least one school is included in the final sample from any final stratum. This school district may or not have a school in the sample from a particular final stratum.)

A_{hd} is the aggregate of the measures of size for all schools in school district d that are included in final stratum h. For school district d there will be as many values of A_{hd} as there are final strata in which that school district appears.

(c) For each school district d represented in the sample compute

$$P_{hd} = \frac{A_{hd}}{A_h}$$

and

$$Q_{hd} = 1 - P_{hd}, \quad h = 1, 2, \ldots, K_d,$$

where

K_d is the number of final strata in which at least one school on the universe list of schools in school district d appears.

Then,

$P_d' = 1 - Q_d'$ is approximately the probability of including school district d in the sample,

where, approximately,

$$Q_d' = (Q_{1d}Q_{2d}Q_{3d} \cdots Q_{K_d d})^2.$$

2. A subsample of school districts will be drawn from those school districts represented in the sample, as follows:

(a) Separate the school districts into two classes:

(1) Those districts for which $P_d' = 1$

(2) Those districts for which $P_d' < 1$

(b) Within the class of districts for which $P_d' = 1$

sort the districts by geographical regions. Within each geographical region order the districts by enrollment size. Also, indicate the urbanization class of each district.

(c) Within the class of districts for which $P_d' < 1$

sort the districts by geographic region as for the above class. Then, order the districts within each region by P_d'. Again indicate the urbanization class of each district.

3. The approximate subsampling fractions are given in Table A.1. Exact subsampling fractions will be established after the initial sample is drawn.

4. The school districts selected in the preceding step will be sent to ETS, along with a list of the schools on the universe list for each district. ETS will obtain corrections for schools missing from the list and additions for new schools since the list was prepared.

5. The results will be returned to Westat by ETS, where schools added to the list will be subsampled for inclusion in the final sample. The subsampling will be done so as to achieve overall probabilities of selection that will approximate as nearly as feasible the probabilities that the schools of each size class had of inclusion in the initial sample.

6. The method of selecting schools will parallel the method described for the initial sample of 720. That is, a number of final strata equal to half the desired sample number will be established. The schools will be randomized within the final strata and the selection will be made in the manner previously described. Weights will be derived from the subsampling fractions of Table A. 1 and the measures of size used in the selection of two schools per final stratum.

Table A. 1 Approximate subsampling fractions to be used for the supplementary sample

P_d'	Approximate subsampling fraction	Approximate overall probability of selecting school district
1.00	2/5	.40
.5 to .99	1/4	.12 to .25
.3 to .49	1/5	.06 to .10
.16 to .29	1/4	.04 to .07
.08 to .15	1/2	.04 to .07
.04 to .079	1	.04 to .07
.004 to .039	1	under .04

APPENDIX B

FOR ETS USE ONLY

SURVEY OF COMPENSATORY READING PROGRAMS

SCHOOL PRINCIPAL QUESTIONNAIRE

School Name _____
School District _____
Principal Name _____

DIRECTIONS: This questionnaire is in two parts. The first part is intended to elicit information about your school and the students in it. Please feel free to consult others in your school or school district in order to provide the information requested. The second part of the questionnaire has to do with compensatory reading programs. By compensatory reading is meant any reading instruction provided to students judged needy by virtue of cultural, economic, or educational deprivation.

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PART I

1. How many public schools having any of the grades kindergarten through six are there in your school district? (Circle one number for your answer)

   1 2 3 4 5 6 7 8 9 10 or more

PLEASE PROVIDE THE FOLLOWING INFORMATION ABOUT YOUR SCHOOL:

2. School size (number of pupils)

   ☐ Less than 100
   ☐ 100-299
   ☐ 300-499
   ☐ 500-699
   ☐ 700-899
   ☐ 900 or more

3. Number of classrooms _____

4. Number of classes at each grade level:

   K_____ 4_____
   1_____ 5_____
   2_____ 6_____
   3_____ Special or Ungraded_____

5a. Percent of total student body that moves from school attendance area each year.

- ☐ 0-10%
- ☐ 11-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-90%
- ☐ 91-100%

5b. Percent of total student body that moves into school attendance area each year.

- ☐ 0-10%
- ☐ 11-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-90%
- ☐ 91-100%

6. Estimated percentage of pupils from migrant families.

- ☐ 0-10%
- ☐ 11-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-90%
- ☐ 91-100%

7. Estimated percentage of pupils whose families receive public assistance.

- ☐ 0-10%
- ☐ 11-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-90%
- ☐ 91-100%

8. Estimated percentage of pupils from one-parent families.

- ☐ 0-10%
- ☐ 11-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-90%
- ☐ 91-100%

9. Estimated percentage of pupils whose parent(s) (one or both) attained the following levels of education.

	0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
Attended college	☐	☐	☐	☐	☐	☐
Graduated from high school but did not attend college	☐	☐	☐	☐	☐	☐
Attended but did not graduate from high school	☐	☐	☐	☐	☐	☐
Finished 8th grade but did not attend high school	☐	☐	☐	☐	☐	☐
Did not finish 8th grade	☐	☐	☐	☐	☐	☐

10. Estimated percentage of school families that have each of the following annual incomes:

	0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
$12,000 and over	☐	☐	☐	☐	☐	☐
Between $10,000 and 11,999	☐	☐	☐	☐	☐	☐
Between $8,000 and 9,999	☐	☐	☐	☐	☐	☐
Between $6,000 and 7,999	☐	☐	☐	☐	☐	☐
Between $4,000 and 5,999	☐	☐	☐	☐	☐	☐
Between $2,000 and 2,999	☐	☐	☐	☐	☐	☐
Under $2,000	☐	☐	☐	☐	☐	☐

11. Estimated percentage of school families in each of the following occupational categories:

	0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
Professional	☐	☐	☐	☐	☐	☐
Business or managerial	☐	☐	☐	☐	☐	☐
White collar	☐	☐	☐	☐	☐	☐
Skilled workers; farm owners	☐	☐	☐	☐	☐	☐
Unskilled, farm, or service workers	☐	☐	☐	☐	☐	☐
Unemployed	☐	☐	☐	☐	☐	☐

12. Estimated percentage of students of the following racial or national origins:

	0-10%	11-25%	26-50%	51-75%	76-90%	91-100%
Caucasian	☐	☐	☐	☐	☐	☐
Negro	☐	☐	☐	☐	☐	☐
Spanish	☐	☐	☐	☐	☐	☐
Oriental	☐	☐	☐	☐	☐	☐
American Indian	☐	☐	☐	☐	☐	☐
Other (specify_____)	☐	☐	☐	☐	☐	☐

13. Is your school in a Model Cities or Model Neighborhoods area?

☐ Yes

☐ No

14a. Are children bussed to your school from other neighborhoods not in your school's regular attendance area?

☐ Yes

☐ No

14b. If children are bussed in, about what percentage of the total student body comes from outside the regular attendance area?

☐ 0-10%

☐ 11-25%

☐ 26-50%

☐ 51-75%

☐ 76-90%

☐ 91-100%

15. Are children bussed from your school's sending area to schools in other neighborhoods?

☐ Yes

☐ No

16a. What is the instructional organization of the classes (grades kindergarten through 6) in your school?

☐ All classes are graded

☐ All classes are ungraded

☐ Classes are both graded and ungraded

16b. If you have a combination of graded and ungraded classes, indicate below the instructional organization for each grade or, if ungraded, the equivalent grades in your school.

(Instructional Organization)

Grade or Equivalent

	Graded	Ungraded	Graded & Ungraded
Kindergarten	☐	☐	☐
Grade 1	☐	☐	☐
Grade 2	☐	☐	☐
Grade 3	☐	☐	☐
Grade 4	☐	☐	☐
Grade 5	☐	☐	☐
Grade 6	☐	☐	☐

17. Using your best professional judgement, rate each of the following characteristics for your school:

	Highly Adequate	Adequate	Inadequate	Grossly Inadequate
Size of physical plant for pupil population	☐	☐	☐	☐
Number of instructional personnel	☐	☐	☐	☐
Number of other professional personnel	☐	☐	☐	☐
Number of teacher aides	☐	☐	☐	☐
Number of other non-professionals	☐	☐	☐	☐
Quantity of books, periodicals, and other printed materials	☐	☐	☐	☐
Quantity of audio-visual materials	☐	☐	☐	☐
Quantity of instructional equipment	☐	☐	☐	☐
Condition of physical plant	☐	☐	☐	☐
Suitability of physical plant for program operation	☐	☐	☐	☐
Suitability (quality) of books periodicals, and other printed materials for instruction	☐	☐	☐	☐
Suitability (quality) of audio-visual materials for instruction	☐	☐	☐	☐
Suitability (quality) of instructional equipment for instruction	☐	☐	☐	☐

18a. Does your school participate in a district-wide standardized testing program?

☐ Yes

☐ No

18b. What is the purpose of the testing program? (Mark all that apply)

☐ To evaluate class performance

☐ To evaluate individual pupil performance

☐ To evaluate teacher performance

☐ To evaluate school performance

☐ Other (specify_____)

19. Estimate the percentage of 6th grade students in your school who are reading one or more years below grade level according to current test data. If you do not have test scores for pupils in grade 6, use the nearest grade below grade 6 for which you do have data. The estimate should be based upon the concept of national norms for the grade for which you are reporting.

☐ None ☐ 26-50% ☐ 91-100%

☐ 1-10% ☐ 51-75%

☐ 11-25% ☐ 76-90%

If test data were not for grade 6, indicate the grade.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

20. Does your school have an ongoing remedial or supplementary reading program that is supported by the regular school budget?

☐ Yes

☐ No

21a. Are there students in your school who in your judgement are in need of supplementary reading instruction but who are not receiving such instruction?

☐ Yes

☐ No

21b. If Yes, about how many students? _____

21c. If yes, about how many students in each of the following grades?

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

PART II

DIRECTIONS: This part of the questionnaire is intended to elicit information about the compensatory reading program(s) in your school. By compensatory reading is meant any reading instruction provided to students judged needy by virtue of cultural, economic, or educational deprivation.

If you have more than one compensatory reading program (as defined above) in operation in your school during this academic year, space is provided in some instances for you to answer questions about each program individually. Some guidelines for determining what constitutes "a program" [for purposes of this survey] are presented below.

1. If instructional groups (for example, grades) are exposed to essentially the same kinds of materials, personnel, and services, the total over all grades should be considered a program.

2. If a separate classroom or space is set aside for reading instruction, staffed by special personnel and supplied with special equipment or materials, such an entity should be considered a program.

3. If teachers receive special training for reading instruction during summers or after-school hours, and that training is funded by supplementary sources, such training, in and of itself, should be considered a program.

22. Does your school conduct at least one compensatory reading program as defined above?

☐ Yes — If so, please go on to question 23 and complete the remainder of this questionnaire. At the same time, please distribute questionnaires to the following teachers. ALL TEACHERS OF COMPENSATORY READING IN GRADES 2, 4, AND 6, AND THE ONE TEACHER OF EACH OF GRADES 2, 4, AND 6 HAVING THE CLASS WITH THE LOWEST AVERAGE READING ACHIEVEMENT. All teachers should receive Teacher Characteristics Questionnaires (tan). Teachers of compensatory reading should also receive CLASS AND PROGRAM CHARACTERISTICS OF COMPENSATORY READING PROGRAMS (blue). Other teachers should receive CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRES (yellow).

☐ NO — If not, DO NOT COMPLETE THIS QUESTIONNAIRE. HOWEVER, PLEASE ARRANGE FOR TEACHER QUESTIONNAIRES TO BE COMPLETED BY THE ONE TEACHER OF EACH OF GRADES 2, 4, AND 6 HAVING THE CLASS WITH THE LOWEST AVERAGE READING ACHIEVEMENT. These teachers should receive Teacher Characteristics Questionnaires (tan) and Class and Program Characteristics Questionnaires (yellow).

23a. How many separate and distinct compensatory reading programs are currently operating in your school?

☐ One

☐ Two

☐ Three

☐ Four

☐ More than four

23b. If there is more than one compensatory reading program in your school, please list each program below. Use a brief, descriptive title to identify each program, one on each line. Thereafter, when asked to answer questions separately for each program, report on the separate programs in the order you list them here.

Program 1_____

Program 2_____

Program 3_____

Program 4_____

23c. Are any of the compensatory reading programs in your school funded totally or in part by funds (federal, state, local, or other) <u>supplementary to the regular ongoing school budget</u>?

☐ Yes

☐ No

24. When was the first compensatory reading program funded by supplementary sources made available in your school?

☐ More than 1 but less than 2 school years ago

☐ More than 2 but less than 3 school years ago

☐ 3 or more school years ago

25. How long has (have) the present compensatory reading program(s) been available in your school? (Answer separately for each program)

	Program 1	Program 2	Program 3	Program 4
Less than 1 school year				
More than 1 but less than 2 school years				
More than 2 but less than 3 school years				
3 or more school years ago				

26a. What are the <u>total</u> funds allocated for instruction in your school? (Include costs of personnel, special equipment and materials. Do not include prorated costs for space or operating the school building.)

_____

What are the costs per student of instruction in your school?

_____

26b. What are the <u>total</u> funds allocated for compensatory reading in your school? (Include costs of personnel, special equipment and materials. Do not include prorated costs for space or operating the school building.)

_____

What are the costs per student of compensatory reading in your school?

_____

26c. If there are separate compensatory reading programs in your school, please provide the following breakdown(s) of costs by program and by component parts.

Total cost of program	Program 1	Program 2	Program 3	Program 4
Cost of personnel: Professional				
Other				
Cannot break down cost(s) for program				

27. How many pupils participate in (each of the) compensatory reading program(s) in your school? (If there is more than one program answer separately for each. If individual children participate in more than one program, count them in each total.)

Number of Pupils

Program 1_____

Program 2_____

Program 3_____

Program 4_____

28. Indicate the approximate level of funding for the compensatory reading program(s) in your school by each source indicated below: (Answer separately for each program.)

	PROGRAM 1			PROGRAM 2			PROGRAM 3			PROGRAM 4		
	Total	Partial	None	Total	Partial	None	Total	Partial	None	Total	Partial	None
FEDERAL												
ESEA Title I	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other(specify)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
STATE (specify)												
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
LOCAL (specify)												
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
OTHER												
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
_____	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

29. Was any teacher resistance encountered in the implementation of the compensatory reading program(s) in you school?

☐ None at all
☐ Some
☐ A great deal

30. Was any community resistance encountered in the implementation of the compensatory reading program(s) in your school?

☐ None at all
☐ Some
☐ A great deal

31. What approach(es) to the teaching of reading is (are) present in the compensatory reading program(s) in your school? (Check Yes, No or Don't know for each possibility)

	Yes	No	Don't know
All classes throughout the school are exposed to essentially the same approach and/or materials	☐	☐	☐
Groups of classes within the school are exposed to different approaches and/or materials	☐	☐	☐
Each class in the school has a unique approach and/or set of materials	☐	☐	☐
Separate reading treatments are prescribed for small groups of students	☐	☐	☐
Separate reading treatments are prescribed for individual students	☐	☐	☐
Other (specify)_____	☐	☐	☐

32. How is student reading achievement evaluated in your school? (Check Yes, No or Don't know for each possibility)

	Yes	No	Don't know
By means of standardized achievement measures administered throughout the school district	☐	☐	☐
By means of standardized achievement measures administered throughout the school (but not the district)	☐	☐	☐
By means of standardized achievement measures administered to some classes (but not the whole school)	☐	☐	☐
By means of teacher-made devices administered to whole classes or individual students	☐	☐	☐
By means of teacher judgement	☐	☐	☐
Other (specify)_____	☐	☐	☐

33. How is teaching in the compensatory reading program evaluated? (Check Yes or No for each possibility)

	Yes	No
By means of observation by school administrators	☐	☐
By means of observation by district personnel	☐	☐
By means of students' test results	☐	☐

	Yes	No
In school-parent conferences	☐	☐
By means of student comments	☐	☐
Other (specify)_____	☐	☐

34. How is teaching in other academic programs in your school evaluated? (Check Yes or No for each possibility)

	Yes	No
By means of observation by school administrators	☐	☐
By means of observation by district personnel	☐	☐
By means of students' test results	☐	☐
In school-parent conferences	☐	☐
By means of student comments	☐	☐
Other (specify)_____	☐	☐

35. Approximately what percent of the pupils at each grade level in your school participate in the compensatory reading program? (Answer separately for each program)

Grade	PROGRAM 1				PROGRAM 2				PROGRAM 3				PROGRAM 4			
	0	1-25	26-50	51-100	0	1-25	26-50	51-100	0	1-25	26-50	51-100	0	1-25	26-50	51-100
K																
1																
2																
3																
4																
5																
6																

36. Indicate below the actual numbers of classes and pupils in the compensatory reading program(s) at each of the specified grade levels in your school (Answer for all programs combined)

	Total for school	Total for Grades 2	4	6
Number of class sections	_____	____	____	____
Number of students	_____	____	____	____

37. What is the basis for determining pupil participation in the compensatory reading program? (Mark all that apply)

- [ ] Residence within the school sending district (i.e., all students in the school participate).
- [ ] Membership in one or more specific target groups (i.e., economically disadvantaged, migrants, non-English speaking).
- [ ] Depressed reading levels (as indicated by test results).
- [ ] Teacher (or other staff) recommendation.
- [ ] Parent request.
- [ ] Volunteer.
- [ ] Other (specify)_____

38. What is the most frequent basis for assignment or selection of personnel to teach in the compensatory reading program? (Mark <u>one</u> response)

- [ ] Stated teacher preference
- [ ] Specialized training
- [ ] Previous teaching experience
- [ ] Assignment of personnel by district
- [ ] Specified by funding source
- [ ] Don't know
- [ ] Same ethnic or linguistic background as students
- [ ] Other (Specify)_____

39. Since June 1971, what types of personnel in your school district have participated in inservice training activities to prepare them for teaching in a compensatory reading program for elementary students? (Mark all that apply)

- [ ] Regular classroom teachers
- [ ] School-located reading specialists
- [ ] School district reading specialists
- [ ] School personnel other than above (Specify)_____

_____

40a. Does the compensatory reading program use parents or other volunteers (paid or unpaid) to help in the classroom?

☐ Yes

☐ No

40b. Does the compensatory reading program use pupils as tutors?

☐ Yes

☐ No

41a. Do you expect to have a compensatory reading program in the SUMMER of 1973 (the summer after next)?

☐ Yes

☐ No

41b. If you do expect to have a summer program, for which of the following grades will the program be conducted? (Circle all that apply)

K 1 2 3 4 5 6

41c. On what basis do you expect to select students for the summer program? (Check all that apply)

☐ Previous participation in a compensatory reading program

☐ Previous non-participation in a compensatory reading program

☐ Depressed reading level

☐ Membership in one or another specific target group (economically deprived, etc.)

☐ Teacher or other staff recommendation

☐ Parent request

☐ Volunteer

☐ Other (specify)_____

PLEASE CHECK TO MAKE SURE ALL QUESTIONS HAVE BEEN ANSWERED. THEN, RETURN YOUR QUESTIONNAIRE TO ETS IN THE POSTAGE-PAID ENVELOPE PROVIDED.

THANK YOU FOR YOUR COOPERATION.

FOR ETS USE ONLY

SURVEY OF COMPENSATORY READING PROGRAMS

TEACHER CHARACTERISTICS QUESTIONNAIRE

School Name _____ Teacher Name _____

1. What is your sex? _____ Male _____ Female

2. How many years of teaching experience (public and nonpublic), including this year, have you had?

- ☐ One year or less
- ☐ More than 1 year but less than 3 years
- ☐ At least 3 years but less than 6 years
- ☐ At least 6 years but less than 10 years
- ☐ At least 10 years but less than 20 years
- ☐ 20 years or more

3. How many years, including this year, have you taught in this school?

- ☐ One year or less
- ☐ More than 1 year but less than 3 years
- ☐ At least 3 years but less than 6 years
- ☐ At least 6 years but less than 10 years
- ☐ At least 10 years but less than 20 years
- ☐ 20 years or more

4. What type of teaching certification do you have?

- ☐ No certificate
- ☐ Temporary, provisional, or emergency certification
- ☐ Regular certification

5. What is the highest earned college degree you hold? Do not report honorary degrees.

- ☐ No degree
- ☐ A degree or diploma based on less than 4 years of work
- ☐ A bachelor's degree

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☐ A master's degree

☐ Professional or specialist diploma (sixth year)

☐ A doctor's degree (EdD, PhD, etc.)

6. Have you had any special training in the teaching of reading?

☐ Yes

☐ No

a. If yes, at what level was the training?

☐ Undergraduate

☐ Graduate

☐ Inservice

☐ On the job

☐ Other (Specify) _____

_____

b. How long ago did you receive your specialized training in reading instruction?

☐ Within the past year

☐ Between 1 and 4 years ago

☐ 5 years ago or more

7. Have you had any special training in the diagnosis and treatment of reading problems?

☐ Yes

☐ No

a. If yes, at what academic level was the training?

☐ Undergraduate

☐ Graduate

☐ Inservice

☐ On the job

☐ Other (Specify) _____

_____

8. Are most of your students of the same racial or national origin as you?

☐ Yes

☐ No

9. Do you reside within the attendance area of neighborhood of this school?

☐ Yes

☐ No

10. Were you assigned to or did you choose the school in which you are now teaching?

☐ Was assigned to school

☐ Chose school

a. Were you assigned or did you choose to teach the class you are teaching this year?

☐ Was assigned to class

☐ Chose class

The questions that follow are all designed to elicit your opinions about your school, the pupils you teach, and any compensatory reading program you might be involved in. Please answer the questions as candidly as you are able. There are no "right" answers to these questions; we are interested in obtaining some information about how teachers feel about compensatory reading programs and about the pupils in them.

11. Compared with other schools in your community, how would you characterize the following things about your school?

	Considerably above average	Slightly above average	Average	Slightly below average	Considerably below average
Physical facilities (buildings, etc.)					
Faculty (teachers)					
Ability of student body					
Attitudes of student body					
Administration					
Overall philosophy of education					

12. a. How attentive is the administration of your school to any requests you might make for additional teaching materials or equipment?

☐ Highly attentive

☐ Moderately attentive

☐ Not at all attentive

12. b. For remedial or other help for one of your students?

- ☐ Highly attentive
- ☐ Moderately attentive
- ☐ Not at all attentive

c. For changes in your curriculum?

- ☐ Highly attentive
- ☐ Moderately attentive
- ☐ Not at all attentive

13. Do you believe there is a sound basis in educational policy for giving compensatory programs to disadvantaged students at extra per pupil cost?

- ☐ Definitely yes
- ☐ Probably yes
- ☐ I am undecided
- ☐ Probably no
- ☐ Definitely no

14. Do you believe that compensatory programs are generally worthwhile?

- ☐ Definitely yes
- ☐ Probably yes
- ☐ I am undecided
- ☐ Probably no
- ☐ Definitely no

15. The following statements are all realted to the academic capabilities of disadvantaged/minority pupils. For each statement, indicate the degree to which you agree or disagree with the idea expressed.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
a. With proper instruction they can learn about as well as any other pupils.	☐	☐	☐	☐	☐
b. No matter how good the instruction these pupils receive they will always score lower than middle class children.	☐	☐	☐	☐	☐
c. These children do not want to learn.	☐	☐	☐	☐	☐
d. The pupils may want to learn but they do not have the right background for school work.	☐	☐	☐	☐	☐
e. It has been scientifically proven that such pupils will never do as well as other students.	☐	☐	☐	☐	☐
f. Materials are more important than methods in the teaching of reading.	☐	☐	☐	☐	☐
g. Methods are more important than materials in the teaching of reading.	☐	☐	☐	☐	☐
h. The teacher's ability is more important than either methods of materials in the teaching of reading.	☐	☐	☐	☐	☐
i. Disadvantaged children have more trouble learning to read than advantaged children.	☐	☐	☐	☐	☐
j. Disadvantaged children have a shorter attention span than advantaged children.	☐	☐	☐	☐	☐
k. Disadvantaged children have different linguistic experiences than advantaged children.	☐	☐	☐	☐	☐
l. Disadvantaged children are disadvantaged mainly in that they do not have the foundation of concepts that advantaged children have.	☐	☐	☐	☐	☐
m. Learning to verbalize complete thoughts is particularly important for disadvantaged children.	☐	☐	☐	☐	☐
n. Improving the student's self-image as a learner is particularly important for disadvantaged children.	☐	☐	☐	☐	☐

15. con't	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
o. The ability to ask questions which require a complete answer is extremely important in teaching reading to disadvantaged children.	☐	☐	☐	☐	☐
p. In teaching reading, a wrong response can be as useful as a correct response.	☐	☐	☐	☐	☐
q. Disadvantaged children often lower aspirations than advantaged children.	☐	☐	☐	☐	☐

ED 064297

FOR ETS
USE ONLY

SURVEY OF COMPENSATORY READING PROGRAMS

CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRE

This questionnaire is designed to elicit information about your reading instruction and the group(s) to which you provide such instruction. Because reading instruction and instructional groups are so variable, some definitions are given below. Please keep the definitions in mind as you answer the questions, and refer to them as often as you need to.

The main purpose of the questionnaire is to provide descriptive information about compensatory reading programs. By compensatory reading is meant any reading instruction provided to students judged needy by virtue of cultural, economic, or educational deprivation.

In many instances, the questionnaire asks for information about classes. For purposes of this study, a class is any instructional group that is exposed to a common set of materials, personnel, and/or services, however large and extensive that set might be, and that can sensibly be treated as a group in terms of its general characteristics. IF YOU ARE A MEMBER OF A TEAM THAT TOGETHER INSTRUCTS SUCH A GROUP, PLEASE COMPLETE THIS QUESTIONNAIRE TOGETHER WITH THE OTHER MEMBER(S) OF THE TEAM.

Frequently, schools have several compensatory reading programs operating simultaneously under the same roof. IF YOU ARE TEACHING IN MORE THAN ONE PROGRAM, PLEASE COMPLETE A SEPARATE QUESTIONNAIRE FOR EACH PROGRAM, EVEN IF SOME OR ALL OF THE STUDENTS ARE THE SAME.

If your class includes children from several grade levels, please answer the questionnaire in terms of the grade level which has the greatest representation in your class.

I. CLASS CHARACTERISTICS

1. If you are a classroom teacher, how many students are in your class? (If you are not a classroom teacher, skip to question 3.) Give actual number _____.

   a. How many are boys? _____

   b. How many are girls? _____

2. How many of the pupils in your class receive compensatory reading instruction as defined above?

   ☐ All of the pupils in my class receive compensatory reading instruction

      ☐ from me

      ☐ some from me and some from another teacher

   ☐ Selected pupils in my class receive compensatory reading instruction

      ☐ from me

      ☐ some from me and some from another teacher

The following questions refer ONLY to those pupils who receive their compensatory reading instruction from you. If all of the pupils in your class receive compensatory reading instruction, answer the questions in terms of the total class. If only some of the pupils receive compensatory reading instruction, answer the questions in terms of those pupils only.

3. How many pupils receive compensatory reading instruction from you? (Give actual number) ____

   a. How many are boys? ____

   b. How many are girls? ____

4. What is the age range of the children in your compensatory reading class?

   Age of oldest child: ____/____ (Years Months) Age of youngest child: ____/____ (Years Months)

5. What percentage of the pupils in your compensatory reading class have received compensatory reading instruction prior to this year?

   ☐ None
   ☐ 1-25%
   ☐ 26-50%
   ☐ 51-75%
   ☐ 76-100%
   ☐ Don't know

6. About what percentage of the children in your compensatory reading class attended some form of preschool? (Include Headstart, day care, or nursery school: DO NOT INCLUDE PUBLIC SCHOOL KINDERGARTEN.)

   ☐ None
   1-25%
   ☐ 1-25%
   ☐ 26-50%
   ☐ 51-75%
   ☐ 76-100%
   ☐ Don't know

7. What percentage of the pupils in your compensatory reading class come from families in which the head of the household is receiving welfare, or is chronically unemployed?

   ☐ None
   ☐ 1-25%
   ☐ 26-50%
   ☐ 51-75%
   ☐ 76-100%
   ☐ Don't know

8. About what percent of the pupils in your compensatory reading class are members of the following racial or national origin groups? (Mark one box on each line.)

	None	-25%	26-50%	51-75%	76-100%
Caucasian	☐	☐	☐	☐	☐
Black	☐	☐	☐	☐	☐
Spanish	☐	☐	☐	☐	☐
Oriental	☐	☐	☐	☐	☐
American Indian	☐	☐	☐	☐	☐
Other (specify _____)	☐	☐	☐	☐	☐

9. Estimate the percent of the pupils in your compensatory reading class who are from homes in which the dominant language is not English.

☐ None
☐ 1-25%
☐ 26-50%
☐ 51-75%
☐ 76-100%
☐ Don't know

a. Among the homes where the dominant language is not English, what language(s) is (are) spoken? (Mark all that apply)

☐ American Indian
☐ Chinese
☐ Japanese
☐ Spanish-Portuguese
☐ French
☐ Other (specify) _____

10. Estimate the percentage of pupils in your compensatory reading class who are reading one or more years below grade level. The estimate should be based upon the concept of national norms.

☐ None
☐ 1-25%
☐ 26-50%
☐ 51-75%
☐ 76-100%
☐ Don't know

11. Estimate the percentage of pupils in your compensatory reading class who have persistent problems in each of the following areas.

	None	1-25%	26-50%	51-75%	76-100%	Don't Know
Speech	☐	☐	☐	☐	☐	☐
Vision	☐	☐	☐	☐	☐	☐
Hearing	☐	☐	☐	☐	☐	☐
Other physical handicap	☐	☐	☐	☐	☐	☐
Chronic disease	☐	☐	☐	☐	☐	☐
Mental retardation	☐	☐	☐	☐	☐	☐
Emotional problems	☐	☐	☐	☐	☐	☐
Family instability	☐	☐	☐	☐	☐	☐
Other (specify) _____	☐	☐	☐	☐	☐	☐

12. Estimate the percentage of pupils in your compensatory reading class whose family incomes are derived from each of the following occupational categories.

	None	0-25%	26-50%	51-75%	76-100%
Farm, service, or unskilled workers	☐	☐	☐	☐	☐
Skilled workers or craftsmen	☐	☐	☐	☐	☐
White collar workers	☐	☐	☐	☐	☐
Business managers, owners	☐	☐	☐	☐	☐
Professionals	☐	☐	☐	☐	☐
Don't know	☐	☐	☐	☐	☐

13. Estimate the percentage of pupils in your compensatory reading class whose mothers are employed outside the home.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

14. Estimate the percentage of pupils in your compensatory reading class whose families are not intact because of desertion, separation, divorce, or the death of one parent.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

15a. What is the average absentee rate in your compensatory reading class? (About what percentage of the class is absent on any given day?)

- ☐ 0-10%
- ☐ 11-20%
- ☐ 21-30%
- ☐ 31-40%
- ☐ 41-50%
- ☐ More than 50%

15b. Which of the following would you judge to be the major causes of absenteeism among your pupils? (Mark yes or no for each cause)

Yes	No	
☐	☐	Illness of pupil
☐	☐	Illness of other family members(s)
☐	☐	Lack of parental concern
☐	☐	Need for pupil to perform other duties at home
☐	☐	Suspension or expulsion
☐	☐	Other (Specify) _____

16. Estimate the percentage of your pupils whose families have moved into this school attendance area before the end of the school year.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

17. Estimate the percentage of your pupils who have moved out of the school attendance area this year.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

The questions that follow are all designed to elicit your opinions about the pupils you teach and the program you are involved in. Please answer the questions as candidly as you are able. There are no "right" answers to these questions: we are interested in obtaining some information about how teachers feel about compensatory reading programs and about the pupils in them.

18. Judging the pupils in your compensatory reading class as a group, and compared with other students you have taught, how would you rate your present class along each of the following dimensions?

	Above Average	Average	Below Average	Can't Rate
General academic ability	☐	☐	☐	☐
Desire to learn	☐	☐	☐	☐
Attention span	☐	☐	☐	☐
Creativity	☐	☐	☐	☐
Responsibility	☐	☐	☐	☐
Self concept	☐	☐	☐	☐
Independence	☐	☐	☐	☐
Interest in school	☐	☐	☐	☐
Interest in reading	☐	☐	☐	☐

19. How far do you expect the average pupil in your compensatory reading class would be able to go in school if he were given the opportunity?

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a 4 year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

20. How far do you expect the average pupil in your compensatory reading <u>will</u> actually <u>go</u> in school?

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school or some other post-secondary course, but not a 4 year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

II. PROGRAM CHARACTERISTICS

The following questions refer to your compensatory reading instruction (see definition above). If you are a classroom teacher, and all of the pupils in your class receive compensatory reading instruction, answer the questions in terms of the total class. If only some of the pupils receive compensatory reading instruction, answer the questions in terms of those pupils only, and in terms of that part of the instructional program that is directed to them.

If you are a reading teacher, or specialist teacher, answer the questions in terms of the group(s) to which your instruction applies. If you teach more than one group (see definition above), you should complete a separate questionnaire for each group.

21. When is compensatory reading instruction carried on? (Check all that apply)

- ☐ During regular school hours in time scheduled for regular reading instruction
- ☐ During regular school hours in time released from other class work
- ☐ Before or after school or on weekends
- ☐ During the summer
- ☐ Other (Specify) _____

_____

22. If compensatory reading instruction is carried on in time released from other class work, which of the following subject matter areas receive correspondingly reduced time?

- ☐ Social Studies
- ☐ Science
- ☐ Mathematics
- ☐ Foreign Language
- ☐ Language Arts
- ☐ Physical Education
- ☐ Art
- ☐ Music
- ☐ Seat work, study time, etc.
- ☐ Other (Specify) _____

_____

23. What is the average amount of formal instruction time per student in compensatory reading?

a. Minutes per instructional period:

☐	1-15	☐	51-60
☐	16-30	☐	61-75
☐	31-40	☐	76-90
☐	41-50	☐	91-or more

b. Number of instruction periods per week:
☐ One ☐ Four or Five
☐ Two or Three ☐ More than Five

24. Do most pupils receive compensatory reading instruction at the same time of day every instructional day?

☐ Yes
☐ No

If yes, when is the instructional period?

☐ Before school
☐ Morning (before lunch)
☐ Afternoon (after lunch)
☐ After school

If no, when does instruction <u>usually</u> take place?

☐ Mostly in the morning
☐ Mostly in the afternoon
☐ About equally divided between mornings and afternoons

25. What additional personnel are available to you in your teaching of compensatory reading?

	Frequently	Occasionally	Rarely	Not Available
Remedial reading teacher or supervisor	☐	☐	☐	☐
Other professionals (counselors, psychologists, etc.)	☐	☐	☐	☐
Paraprofessional or teacher aide	☐	☐	☐	☐
Parent or other volunteer	☐	☐	☐	☐
Student teacher	☐	☐	☐	☐
Media specialist	☐	☐	☐	☐
Resource teacher (music,art,etc.)	☐	☐	☐	☐
Older student in school	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

_____

26. During the school year, how many teachers other than yourself have held your particular teaching assignment with your compensatory reading class for at least <u>two consecutive weeks</u>? COUNT SUBSTITUTE TEACHERS AND REPLACEMENT TEACHERS: DO <u>NOT</u> COUNT STUDENT TEACHERS OR CLASSROOM AIDES

☐ None
☐ 1
☐ 2
☐ 3
☐ More than 3

27. If your compensatory reading class is organized into groups, indicate the frequency with which you organize these groups by each of the following criteria.

	Frequently	Occasionally	Rarely	Never
Reading grade level	☐	☐	☐	☐
Specific skill deficiencies	☐	☐	☐	☐
Shared interests	☐	☐	☐	☐
Specific projects	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

28. How often do the following instructional groups operate (occur) in the course of your teaching of compensatory reading?

	All of the time	Frequently	Occasionally	Rarely or Never
Adult and child in one-to-one relationship	☐	☐	☐	☐
Adult and children in groups of between 2 and 10	☐	☐	☐	☐
Adult and children in groups of between 11 and 20	☐	☐	☐	☐
Adult and children in groups of more than 20 (includes whole class instruction)	☐	☐	☐	☐
Individual pupils working independently	☐	☐	☐	☐
Pupil teams working independently	☐	☐	☐	☐
Other (Specify)_____	☐	☐	☐	☐

29. If your compensatory reading class is organized into groups, about how frequently does the composition of the group change?

- ☐ Daily
- ☐ Weekly
- ☐ Bi-weekly
- ☐ Monthly
- ☐ Rarely, if ever
- ☐ Other (Specify) _____

30. In a sentence or two, describe the outstanding features of your compensatory reading program.

_____

_____

31. Which one of the following terms comes closest to describing your major classroom approach to the teaching of reading?

- ☐ Linguistic-phonetic
- ☐ Language experience
- ☐ Modified alphabet
- ☐ Eclectic
- ☐ Other (Specify) _____
- ☐ Don't know

32. How long have you used this method?

- ☐ This is the first year
- ☐ For one or two years
- ☐ For three, four, or five years
- ☐ For six years or more

33. To what extent do you use each of the following approaches to teaching reading in your classroom?

	Not at All	Minimally	Somewhat	Extensively
Basal readers	☐	☐	☐	☐
Programmed instruction	☐	☐	☐	☐
A total phonics program	☐	☐	☐	☐
A supplementary phonics program	☐	☐	☐	☐
Language experience	☐	☐	☐	☐
A linguistic program	☐	☐	☐	☐
Non-standard orthography (ex., i.t.a.)	☐	☐	☐	☐
Words in color	☐	☐	☐	☐
Individualized programs	☐	☐	☐	☐
Technological devices such as the "talking typewriter" or teaching machines	☐	☐	☐	☐

Other (Specify and Describe) _____

_____

_____

34. Who selected the materials that you are currently using in your teaching of compensatory reading?

- ☐ You, and you alone
- ☐ You, as a member of a team or committee
- ☐ An individual who asked for your views; or a team or committee of which you were not a member but on which your views were represented
- ☐ An individual, team, or committee, operating without any input from you
- ☐ Other (Specify) _____

35. How satisfied are you with the materials you are currently using in your teaching of compensatory reading?

- ☐ Totally satisfied
- ☐ Satisfied in major aspects; dissatisfied only in some minor ones
- ☐ Lukewarm; neither devoted nor opposed to the materials
- ☐ Dissatisfied in major aspects; satisfied only in some minor ones
- ☐ Totally dissatisfied

36. How frequently do you use the following materials in the course of your compensatory reading instruction?

	Not Available	Often	Sometimes	Rarely or Never Use
Textbooks other than basal readers	☐	☐	☐	☐
Books and printed materials other than textbooks	☐	☐	☐	☐
Newspapers, magazines and other periodicals	☐	☐	☐	☐
Teacher-prepared materials (dittos, etc.)	☐	☐	☐	☐
Motion pictures and/or filmstrips	☐	☐	☐	☐
Slides and transparencies	☐	☐	☐	☐
Tape recordings and records	☐	☐	☐	☐
Video or television tapes	☐	☐	☐	☐
Games, puzzles, and toys	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

37. How much time does a typical pupil in your compensatory reading class spend in each of the following types of activities?

	A great deal	Some	Little or none
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (Whole word recognition)	☐	☐	☐
Learning word meanings (Vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Other (Specify) _____	☐	☐	☐

38. Have you had any special training in the teaching of reading or in instructional techniques for disadvantaged pupils in connection with your current teaching assignment?

☐ Yes

☐ No

If no, skip to question 43.
If yes, please answer questions 39-42.

39. What form did the special training take? (Check all that apply)

☐ Summer workshop or institute

☐ College course (whether or not for degree credit)

☐ After-school or weekend workshop

☐ Released-time workshop

☐ Individual instruction with supervised practice teaching

☐ Other (Specify) _____

40. Which of the following areas were explored in the course of the special training you received? (Check all that apply)

- ☐ New instructional techniques in reading
- ☐ Diagnosis of reading problems
- ☐ Open classroom methods
- ☐ Individualized instruction
- ☐ Use of equipment and materials
- ☐ Techniques for cultural enrichment
- ☐ Other(s) (Specify) _____

41. Over what time period did the special training extend?

- ☐ One summer
- ☐ One academic semester
- ☐ One academic year
- ☐ One calendar year
- ☐ One summer and one academic year
- ☐ Other (Specify) _____

42. How long ago did you receive your special training?

- ☐ Less than one year ago
- ☐ More than one but less than two years ago
- ☐ More than two but less than three years ago
- ☐ Three or more years ago

43. How would you rate each of the following activities in terms of importance to you as goals in your current teaching of compensatory reading?

	Major Goal	Secondary Goal	Of little or no importance as a goal
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (Whole word recognition)	☐	☐	☐
Learning word meanings (Vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Improving self-image	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐
Other (Specify) _____	☐	☐	☐

44. For a typical pupil in your compensatory reading program, about how much in-school time is devoted to each of the following reading or reading-related activities?

	None	Less than 1 hour per week	Between 1 and 4 hours/week	More than 1 hour a day (5+ hours/week)
Basic reading instructional program	☐	☐	☐	☐
Compensatory reading	☐	☐	☐	☐
Instructional program (only if compensatory reading program is different from basic instructional program)	☐	☐	☐	☐
Reading in content areas (Science, Social Studies, etc.)	☐	☐	☐	☐
Independent (self-selected) reading	☐	☐	☐	☐
Library activities	☐	☐	☐	☐
Enrichment activities (include trips, special assemblies, etc.)	☐	☐	☐	☐
Other relevant activities (Specify) _____	☐	☐	☐	☐

45. Please indicate below what materials you use in your reading instruction, and to what extent you use them.

	Series Titles (Specify)	Use as major resource in teaching reading	Use as supplemental or optional course in class	Occasionally refer to myself but don't use in class	Don't use at all
Scott Forsmann	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Harper Row	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Macmillan	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
American Book Co.	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Ginn & Co.	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Houghton-Mifflin	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Lippincott	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Allyn & Bacon	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Holt, Rinehart & Winston	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
SRA	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Harcourt Brace & World	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	Open Court	☐	☐	☐	☐
	ITA	☐	☐	☐	☐
	Merrill Linguistics	☐	☐	☐	☐

List all additional materials used, including hardware	Use as major resource in teaching reading	Use as supplemental or optional course in class	Occassionally refer to myself but don't use in class	Don't use at all
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐

46. Do you create any of the materials you use in teaching compensatory reading?

☐ Yes

☐ No

a. If Yes, which of the following types of materials do you create? (Check all that apply)

☐ Worksheets

☐ Printed stories, poems, or essays

☐ Transparencies for overhead projector

☐ Filmstrips

☐ Slides

☐ Motion pictures

☐ Charts

☐ Tapes

☐ Other (Specify) _____

47. Please indicate the degree of importance to you of each of the following in the teaching of compensatory reading.

	Little or no importance as a goal	A secondary goal	A major goal
Development of auditory discrimination	☐	☐	☐
Development of visual discrimination	☐	☐	☐
Improvement of motor skills	☐	☐	☐
Recognition of basic sight words	☐	☐	☐
Phonic analysis of words	☐	☐	☐
Structural analysis of words	☐	☐	☐
Development of skill in using context clues	☐	☐	☐
Practice in syllabification skills	☐	☐	☐
Practice in punctuation and paragraph skills	☐	☐	☐
Development of comprehension skills	☐	☐	☐
Improvement of comprehension rate	☐	☐	☐
Practice in oral reading	☐	☐	☐
Development of study skills	☐	☐	☐
Development of library skills	☐	☐	☐
Improvement of verbal communication	☐	☐	☐
Other (Specify) _____	☐	☐	☐

48. About how often does each child in your compensatory reading class have the opportunity to read aloud to the class?

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom or never on a regular basis

49. About how often does each child in your compensatory reading class have the opportunity to read aloud to you (or to another adult)?

- ☐ At least once a day
- ☐ Several times a week but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom or never on a regular basis

50. Do compenstaory reading students use special texts on materials that reflect their limited reading skills in any of the folbw ing subject areas?

	Yes	No	I don't know
Language arts	☐	☐	☐
Social Studies	☐	☐	☐
Mathematics	☐	☐	☐
Science	☐	☐	☐
Other (Specify) _____	☐	☐	☐

_____

_____

_____

51. Do you ever use materials or engage in activities with content in any of the following subject matter areas in the course of your compensatory reading instruction?

	Frequently	Occasionally	Rarely or Never
Social Studies	☐	☐	☐
Science	☐	☐	☐
Art	☐	☐	☐
Music	☐	☐	☐
Mathematics	☐	☐	☐
Poetry/Drama	☐	☐	☐

52. On what basis are pupils assigned to compensatory reading programs in your school? (Check all that apply)

- ☐ Membership in some specific target group (economically deprived, migrant worker, etc.)
- ☐ Income criteria
- ☐ Reading level criteria
- ☐ Recommendation of classroom teacher
- ☐ Parent request
- ☐ Recommendation of counselor or Social worker
- ☐ Other (Specify) _____

53. Which of the following types of screening devices are used to determine the need of the individual child for compensatory reading? (Check all that apply)

- ☐ Audiometric
- ☐ Visual (Screening)
- ☐ Intelligence--individually administered
- ☐ Intelligence--group administered
- ☐ Reading (Inventory)--individually administered
- ☐ Reading (Inventory)--group administered
- ☐ Specific skills
- ☐ Speech
- ☐ Psychological
- ☐ Teacher judgments
- ☐ Other (Specify) _____

54. Does your school have a school-wide testing program?

- ☐ Yes
- ☐ No

a. If your school has a school-wide testing program, please indicate which tests are given regularly and in what grades.

	Tests administered in grades											
	1		2		3		4		5		6	
	F	S	F	S	F	S	F	S	F	S	F	S
Ability Tests	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Reading Achievement Tests	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

55. How successful would you consider your compensatory reading teaching to be with respect to each of the following criteria?

	Highly Successful	Moderately Successful	Moderately Unsuccessful	Totally Unsuccessful
Enhancing pre-reading skills	☐	☐	☐	☐
Enhancing measured reading achievement	☐	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐	☐
Improving students' self images	☐	☐	☐	☐
Remediating cultural deprivation	☐	☐	☐	☐

DRAFT
1/18/72
(yellow)

FOR ETS
USE ONLY

CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRE

This questionnaire is designed to elicit information about your reading instruction and the group(s) to which you provide such instruction. Because reading instruction and instructional groups are so variable, some definitions are given below. Please keep the definitions in mind as you answer the questions, and refer to them as often as you need to.

In many instances, the questionnaire asks for information about classes. For purposes of this study, a class in any instructional group that is exposed to a common set of materials, personnel, and/or services, however large and extensive that set might be, and that can sensibly be treated as a group in terms of its general characteristics. IF YOU ARE A MEMBER OF A TEAM THAT TOGETHER INSTRUCTS SUCH A GROUP, PLEASE COMPLETE THIS QUESTIONNAIRE TOGETHER WITH THE OTHER MEMBER(S) OF THE TEAM.

Frequently, schools have several reading programs operating simultaneously under the same roof. IF YOU ARE TEACHING IN MORE THAN ONE PROGRAM, PLEASE COMPLETE A SEPARATE QUESTIONNAIRE FOR EACH PROGRAM, EVEN IF SOME OR ALL OF THE STUDENTS ARE THE SAME.

If your class includes children from several grade levels, please answer the questionnaire in terms of the grade level which has the greatest representation in your class.

I. CLASS CHARACTERISTICS

1. How many pupils are in your reading class? (Give actual number.) _____

   a. How many are boys? _____

   b. How many are girls? _____

2. How do the pupils in your class receive their reading instruction?

   ☐ All of the pupils in my class receive reading instruction

      ☐ from me

      ☐ some from me and some from another teacher

   ☐ Selected pupils in my class receive reading instruction

      ☐ from me

      ☐ some from me and some from another teacher

The following questions refer ONLY to those pupils who receive their reading instruction from you. If all of the pupils in your class receive reading instruction from you, answer the questions in terms of the total class. If only some of the pupils receive reading instruction from you, answer the questions in terms of those pupils only.

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3. How many pupils receive reading instruction from you? (Give actual number.) _____

4. a. How many are boys? _____

   b. How many are girls? _____

4. What is the age range of the children in your reading class?

   Age of oldest child: _____/_____ (Years / Months) Age of youngest child: _____/_____ (Years / Months)

5. What percentage of the pupils in your reading class have received compensatory reading instruction prior to this year?

   - ☐ None
   - ☐ 1-25%
   - ☐ 26-50%
   - ☐ 51-75%
   - ☐ 76-100%
   - ☐ Don't know

6. About what percentage of the children in your class attended some form of pre-school? (Include Headstart, day care, or nursery school. DO NOT INCLUDE PUBLIC SCHOOL KINDERGARTEN.)

   - ☐ None
   - ☐ 1-25%
   - ☐ 26-50%
   - ☐ 51-75%
   - ☐ 76-100%
   - ☐ Don't know

7. What percentage of the pupils in your class come from families in which the head of the household is receiving welfare, or is chronically unemployed?

   - ☐ None
   - ☐ 1-25%
   - ☐ 26-50%
   - ☐ 51-75%
   - ☐ 76-100%
   - ☐ Don't know

8. About what percent of the pupils in your class are members of the following racial or national origin group? (Mark one box on each line.)

	None	1-25%	26-50%	51-75%	76-100%
Caucasian	☐	☐	☐	☐	☐
Black	☐	☐	☐	☐	☐
Mexican-American	☐	☐	☐	☐	☐
Cuban or Puerto Rican	☐	☐	☐	☐	☐
Oriental	☐	☐	☐	☐	☐
American Indian	☐	☐	☐	☐	☐
Other (Specify)_____	☐	☐	☐	☐	☐

9. Estimate the percentage of the pupils in your class who are from homes in which the dominant language is not English.

☐ None

☐ 1-25%

☐ 26-50%

☐ 51-75%

☐ 76-100%

☐ Don't know

a. Among the homes where the dominant language is not English, what language(s) is (are) spoken? (Mark all that apply.)

☐ American Indian

☐ Chinese

☐ Japanese

☐ Spanish-Portuguese

☐ French

☐ Other (Specify) _____

10. Estimate the percentage of pupils in your classroom who are reading <u>one or more</u> years below grade level. The estimate should be based upon the concept of national norms.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

11. Estimate the percentage of pupils in your class who have persistent problems in each of the following areas.

	None	1-25%	26-50%	51-75%	76-100%	Don't know
Speech	☐	☐	☐	☐	☐	☐
Vision	☐	☐	☐	☐	☐	☐
Hearing	☐	☐	☐	☐	☐	☐
Other physical handicap	☐	☐	☐	☐	☐	☐
Chronic disease	☐	☐	☐	☐	☐	☐
Mental retardation	☐	☐	☐	☐	☐	☐
Emotional problems	☐	☐	☐	☐	☐	☐
Family instability	☐	☐	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐	☐	☐

12. Estimate the percentage of pupils in your class whose family incomes are derived from each of the following occupational categories.

	None	0-25%	26-50%	51-75%	76-100%
Farm, service, or unskilled workers	☐	☐	☐	☐	☐
Skilled workers or craftsmen	☐	☐	☐	☐	☐
White collar workers	☐	☐	☐	☐	☐
Business managers, owners	☐	☐	☐	☐	☐
Professionals	☐	☐	☐	☐	☐
Don't know	☐	☐	☐	☐	☐

13. Estimate the percentage of pupils in your class whose mothers are employed outside the home.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

14. Estimate the percentage of students in your class whose families are not intact because of desertion, separation, divorce, or the death of one parent.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Don't know

15a. What is the average absentee rate in your class? (About what percentage of the class is absent on any given day?)

- ☐ 0-10%
- ☐ 11-20%
- ☐ 21-30%
- ☐ 31-40%
- ☐ 41-50%
- ☐ More than 50%

15b. Which of the following would you judge to be the major causes of absenteeism among your pupils? (Mark yes or no for each cause)

Yes	No	
☐	☐	Illness of pupil
☐	☐	Illness of other family members(s)
☐	☐	Lack of parental concern
☐	☐	Need for pupil to perform other duties at home
☐	☐	Suspension or expulsion
☐	☐	Other (Specify) _____

16. Estimate the percentage of your pupils whose families have moved into this school attendance area before the end of the school year.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

17. Estimate the percentage of your pupils who have moved out of the school attendance area this year.

- ☐ None
- ☐ 1-25%
- ☐ 26-50%
- ☐ 51-75%
- ☐ 76-100%
- ☐ Can't estimate

The questions that follow are all designed to elicit your opinions about the pupils you teach and the reading program you are involved in. Please answer the questions as candidly as you are able. There are no "right" answers to these questions: we are interested in obtaining some information about how teachers feel about their reading programs and about the pupils in them.

18. Judging the pupils in your **reading class as a group, and compared** with other students you have taught, how would you rate your present class along each of the following dimensions?

	Above Average	Average	Below Average	Can't Rate
General academic ability	☐	☐	☐	☐
Desire to learn	☐	☐	☐	☐
Attention span	☐	☐	☐	☐
Creativity	☐	☐	☐	☐
Responsibility	☐	☐	☐	☐
Self concept	☐	☐	☐	☐
Independence	☐	☐	☐	☐
Interest in school	☐	☐	☐	☐
Interest in reading	☐	☐	☐	☐

19. How far do you expect the average pupil in your reading class would be able to go in school if he were given the opportunity?

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school, or some other post-secondary course, but not a 4 year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

20. How far do you expect the average pupil in your reading class <u>will</u> actually <u>go</u> in school?

- ☐ Eighth grade, or lower
- ☐ Ninth, tenth, or eleventh grade
- ☐ High school graduate
- ☐ Junior college, business school or some other post-secondary course, but not a 4 year college
- ☐ Four year college or beyond
- ☐ Other (Specify) _____

II. PROGRAM CHARACTERISTICS

The following questions refer to your reading instruction. If you are a classroom teacher, and all of the pupils in your class receive reading instruction from you, answer the questions in terms of the total class. If only some of the pupils receive reading instruction from you, answer the questions in terms of those pupils only, and in terms of that part of the instructional program that is directed to them.

If you are a reading teacher, or specialist teacher, answer the questions in terms of the group(s) to which your instruction applies. If you teach more than one group (see definition above), you should complete a separate questionnaire for each group.

21. What is the average amount of formal instructional time per student in reading?

a. Minutes per instructional period:

- ☐ 1-15
- ☐ 16-30
- ☐ 31--40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-75
- ☐ 76-90
- ☐ 91 or more

b. Number of instruction periods per week:

- ☐ One
- ☐ Two or three
- ☐ Four or five
- ☐ More than five

22. Do most pupils receive reading instruction at the same time of day every instructional day?

- ☐ Yes
- ☐ No

If yes, when is the instructional period?

- ☐ Before school
- ☐ Morning (before lunch)
- ☐ Afternoon (after lunch)
- ☐ After school

If no, when does instruction <u>usually</u> take place?

- ☐ Mostly in the morning
- ☐ Mostly in the afternoon
- ☐ About equally divided between mornings and afternoons

23. What additional personnel are available to you in your teaching of reading?

	Frequently	Occasionally	Rarely	Not Available
Remedial reading teacher or supervisor	☐	☐	☐	☐
Other professionals (counselors, psychologists, etc.)	☐	☐	☐	☐
Paraprofessional or teacher aide	☐	☐	☐	☐
Parent or other volunteer	☐	☐	☐	☐
Student teacher	☐	☐	☐	☐
Media specialist	☐	☐	☐	☐
Resource teacher (music,art,etc.)	☐	☐	☐	☐
Older student in school	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

_____

24. During the school year, how many teachers other than yourself have held your particular teaching assignment with your reading class for at least two consecutive weeks? COUNT SUBSTITUTE TEACHERS AND REPLACEMENT TEACHERS: DO NOT COUNT STUDENT TEACHERS OR CLASSROOM AIDES

- ☐ None
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ More than 3

25. If your reading class is organized into groups, indicate the frequency with which you organize these groups by each of the following criteria.

	Frequently	Occasionally	Rarely	Never
Reading grade level	☐	☐	☐	☐
Specific skill deficiencies	☐	☐	☐	☐
Shared interests	☐	☐	☐	☐
Specific projects	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

26. How often do the following instructional groups operate (occur) in the course of your teaching of reading?

	All of the time	Frequently	Occasionally	Rarely or Never
Adult and child in one-to-one relationship	☐	☐	☐	☐
Adult and children in groups of between 2 and 10	☐	☐	☐	☐
Adult and children in groups of between 11 and 20	☐	☐	☐	☐
Adult and children in groups of more than 20 (includes whole class instruction)	☐	☐	☐	☐
Individual pupils working independently	☐	☐	☐	☐
Pupil teams working independently	☐	☐	☐	☐
Other (Specify)_____	☐	☐	☐	☐

27. If your reading class is organized into groups, about how frequently does the composition of the group change?

- ☐ Daily
- ☐ Weekly
- ☐ Bi-weekly
- ☐ Monthly
- ☐ Rarely, if ever
- ☐ Other (Specify) _____

28. In a sentence or two, describe the outstanding features of your reading program.

_____

_____

29. Which one of the following terms comes closest to describing your major classroom approach to the teaching of reading?

- ☐ Linguistic-phonetic
- ☐ Language experience
- ☐ Modified alphabet
- ☐ Eclectic
- ☐ Other (Specify) _____
- ☐ Don't know

30. How long have you used this method?

- ☐ This is the first year
- ☐ For one or two years
- ☐ For three, four, or five years
- ☐ For six years or more

31. To what extent do you use each of the following approaches to teaching reading in your classroom?

	Not at All	Minimally	Somewhat	Extensively
Basal readers	☐	☐	☐	☐
Programmed instruction	☐	☐	☐	☐
A total phonics program	☐	☐	☐	☐
A supplementary phonics program	☐	☐	☐	☐
Language experience	☐	☐	☐	☐
A linguistic program	☐	☐	☐	☐
Non-standard orthography (ex., i.t.a.)	☐	☐	☐	☐
Words in color	☐	☐	☐	☐
Individualized programs	☐	☐	☐	☐
Technological devices such as the "talking typewriter" or teaching machines	☐	☐	☐	☐

Other (Specify and Describe) _____

_____

_____

32. Who selected the materials that you are currently using in your teaching of reading?

- ☐ You, and you alone
- ☐ You, as a member of a team or committee
- ☐ An individual who asked for your views; or a team or committee of which you were not a member but on which your views were represented
- ☐ An individual, team, or committee, operating without any input from you
- ☐ Other (Specify) _____

33. How satisfied are you with the materials you are currently using in your teaching of reading?

- ☐ Totally satisfied
- ☐ Satisfied in major aspects; dissatisfied only in some minor ones
- ☐ Lukewarm; neither devoted nor opposed to the materials
- ☐ Dissatisfied in major aspects; satisfied only in some minor ones
- ☐ Totally dissatisfied

34. How frequently do you use the following materials in the course of your reading instruction?

	Not Available	Often	Sometimes	Rarely or Never Use
Textbooks other than basal readers	☐	☐	☐	☐
Books and printed materials other than textbooks	☐	☐	☐	☐
Newspapers, magazines and other periodicals	☐	☐	☐	☐
Teacher-prepared materials (dittos, etc.)	☐	☐	☐	☐
Motion pictures and/or filmstrips	☐	☐	☐	☐
Slides and transparencies	☐	☐	☐	☐
Tape recordings and records	☐	☐	☐	☐
Video or television tapes	☐	☐	☐	☐
Games, puzzles, and toys	☐	☐	☐	☐
Other (Specify) _____	☐	☐	☐	☐

35. How much time does a typical pupil in your reading class spend in each of the following types of activities?

	A great deal	Some	Little or none
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (Whole word recognition)	☐	☐	☐
Learning word meanings (Vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Other (Specify) _____	☐	☐	☐

36. Have you had any special training in the teaching of reading or in instructional techniques for disadvantaged pupils in connection with your current teaching assignment?

☐ Yes

☐ No

If no, skip to question 41.
If yes, please answer questions 37-40.

37. What form did the special training take? (Check all that apply)

☐ Summer workshop or institute

☐ College course (whether or not for degree credit)

☐ After-school or weekend workshop

☐ Released-time workshop

☐ Individual instruction with supervised practice teaching

☐ Other (Specify) _____

38. Which of the following areas were explored in the course of the special training you received? (Check all that apply)

- ☐ New instructional techniques in reading
- ☐ Diagnosis of reading problems
- ☐ Open classroom methods
- ☐ Individualized instruction
- ☐ Use of equipment and materials
- ☐ Techniques for cultural enrichment
- ☐ Other(s) (Specify) _____

39. Over what time period did the special training extend?

- ☐ One summer
- ☐ One academic semester
- ☐ One academic year
- ☐ One calendar year
- ☐ One summer and one academic year
- ☐ Other (Specify) _____

40. How long ago did you receive your special training?

- ☐ Less than one year ago
- ☐ More than one but less than two years ago
- ☐ More than two but less than three years ago
- ☐ Three or more years ago

41. How would you rate each of the following activities in terms of importance to you as goals in your current teaching of reading?

	Major Goal	Secondary Goal	Of little or no importance as a goal
Improving motor abilities related to reading	☐	☐	☐
Increasing attention span	☐	☐	☐
Developing visual discrimination	☐	☐	☐
Matching letters or words	☐	☐	☐
Learning letter forms	☐	☐	☐
Developing a sight vocabulary (Whole word recognition)	☐	☐	☐
Learning word meanings (Vocabulary)	☐	☐	☐
Phonic and/or structural analysis	☐	☐	☐
Being read to	☐	☐	☐
Reading aloud	☐	☐	☐
Reading silently (independent silent reading)	☐	☐	☐
Creative writing	☐	☐	☐
Reading for enjoyment	☐	☐	☐
Enriching cultural background	☐	☐	☐
Improving self-image	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐
Other (Specify) _____	☐	☐	☐

42. For a typical pupil in your reading class, about how much in-school time is devoted to each of the following reading or reading-related activities?

	None	Less than 1 hour per week	Between 1 and 4 hours/week	More than 1 hour a day (5+ hours/week)
Basic reading instructional program	☐	☐	☐	☐
Compensatory reading	☐	☐	☐	☐
Instructional program (only if compensatory reading program is different from basic instructional program)	☐	☐	☐	☐
Reading in content areas (Science, Social Studies, etc.)	☐	☐	☐	☐
Independent (self-selected) reading	☐	☐	☐	☐
Library activities	☐	☐	☐	☐
Enrichment activities (include trips, special assemblies, etc.)	☐	☐	☐	☐
Other relevant activities (Specify) _____	☐	☐	☐	☐

_____

43. Please indicate below what materials you use in your reading instruction, and to what extent you use them.

	Series Titles (Specify)	Use as major resource in teaching reading	Use as supplemental or optional course in class	Occasionally refer to myself but don't use in class	Don't use at all
Scott Forsmann	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Harper Row	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Macmillan	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
American Book Co.	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Ginn & Co.	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Houghton-Mifflin	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Lippincott	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Allyn & Bacon	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Holt, Rinehart & Winston	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
SRA	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
Harcourt Brace & World	_____	☐	☐	☐	☐
	_____	☐	☐	☐	☐
	Open Court	☐	☐	☐	☐
	ITA	☐	☐	☐	☐
	Merrill Linguistics	☐	☐	☐	☐

List all additonal materials used, including hardware	Use as major resource in teaching reading	Use as supplemental or optional course in class	Occassionally refer to myself but don't use in class	Don't use at all
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐

44. Do you create any of the materials you use in teaching reading?

☐ Yes

☐ No

a. If yes, which of the following types of materials do you create? (Check all that apply.)

☐ Worksheets

☐ Printed stories, poems, or essays

☐ Transparencies for overhead projector

☐ Filmstrips

☐ Slides

☐ Motion pictures

☐ Charts

☐ Tapes

☐ Other (Specify) _____

45. Please indicate the degree of importance to you of each of the following in the teaching of reading.

	Little or no importance as a goal	A secondary goal	A major goal
Development of auditory discrimination	☐	☐	☐
Development of visual discrimination	☐	☐	☐
Improvement of motor skills	☐	☐	☐
Recognition of basic sight words	☐	☐	☐
Phonic analysis of words	☐	☐	☐
Structural analysis of words	☐	☐	☐
Development of skill in using context clues	☐	☐	☐
Practice in syllabification skills	☐	☐	☐
Practice in punctuation and paragraph skills	☐	☐	☐
Development of comprehension skills	☐	☐	☐
Improvement of comprehension rate	☐	☐	☐
Practice in oral reading	☐	☐	☐
Development of study skills	☐	☐	☐
Development of library skills	☐	☐	☐
Improvement of verbal communication	☐	☐	☐
Other (Specify) _____	☐	☐	☐

46. About how often does each child in your reading class have the opportunity to read aloud to the class?

- ☐ At least once a day
- ☐ Several times a week, but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom or never on a regular basis

47. About how often does each child in your reading class have the opportunity to read aloud to you (or to another adult)?

- ☐ At least once a day
- ☐ Several times a week but not daily
- ☐ About once a week
- ☐ Less than once a week, but regularly
- ☐ Seldom or never on a regular basis

48. Do you ever use materials or engage in activities with content in any of the following subject matter areas in the course of your reading instruction?

	Frequently	Occasionally	Rarely or Never
Social Studies	☐	☐	☐
Science	☐	☐	☐
Art	☐	☐	☐
Music	☐	☐	☐
Mathematics	☐	☐	☐
Poetry/Drama	☐	☐	☐

49. Does your school have a school-wide testing program?

- ☐ Yes
- ☐ No

a. If your school has a school-wide testing program, please indicate which tests are given regularly and in what grades.

	Tests administered in grades											
	1		2		3		4		5		6	
	F	S	F	S	F	S	F	S	F	S	F	S
Ability Tests	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Reading Achievement Tests	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

50. How successful would you consider your teaching reading to be with respect to each of the following criteria?

	Highly Successful	Moderately Successful	Moderately Unsuccessful	Totally Unsuccessful
Enhancing pre-reading skills	☐	☐	☐	☐
Enhancing measured reading achievement	☐	☐	☐	☐
Improving attitudes toward reading	☐	☐	☐	☐
Improving students' self images	☐	☐	☐	☐
Remediating cultural deprivation	☐	☐	☐	☐

ED 064298

SURVEY OF COMPENSATORY READING PROGRAMS

INDIVIDUAL STUDENT QUESTIONNAIRE

To the Teacher: Please obtain the following information for each child for whom you provide compensatory reading instruction, using a separate form for each child. Where necessary, consult other sources, including the child's cumulative school record.

Name of Child _____ Child's Age ____/____
Last First years months

Child's Sex M F

Grade in School 1 2 3 4 5 6

☐ If child is in ungraded class, indicate year in school and check this box.

Has this child received compensatory reading instruction prior to this year?

☐ Yes

☐ No

If yes, for how many years prior to this year did the child receive compensatory reading instruction?

☐ Less than 1 year

☐ 1 year

☐ 2 years

☐ 3 or more years

Did this child attend a preschool program? (Include Head Start, day care, and nursery school. Do not include public school kindergarten.)

☐ Yes

☐ No

Did this child attend kindergarten?

☐ Yes

☐ No

Is the head of this child's household receiving welfare payments, or chronically unemployed?

☐ Yes

☐ No

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Of which of the following racial or ethnic groups is this child a member?

- ☐ Caucasian
- ☐ Black
- ☐ Spanish
- ☐ Oriental
- ☐ American Indian
- ☐ Other (Specify _____)

Is this child from a home in which the dominant language spoken is NOT English?

- ☐ Yes
- ☐ No

If yes, which of the following is the language spoken in the child's home?

- ☐ Spanish-Portuguese
- ☐ American Indian
- ☐ Chinese
- ☐ Japanese
- ☐ French
- ☐ Other (Specify _____)

Is this child reading one or more years below grade level (based on the concept of national norms) ?

- ☐ Yes
- ☐ No

Does this child have a persistent problem in any or all of the following areas? (Check yes or no for each area.)

	Yes	No
Speech	☐	☐
Vision	☐	☐
Hearing	☐	☐
Other physical handicap	☐	☐
Chronic disease	☐	☐
Mental retardation	☐	☐
Emotional problems	☐	☐
Family instability	☐	☐
Chronic absenteeism	☐	☐

Other (Specify _____)

In what occupational category is the head of this child's household employed?

- ☐ Farm, service, or unskilled labor
- ☐ Skilled labor or crafts
- ☐ White collar work
- ☐ Business management or ownership
- ☐ Professional
- ☐ Unemployed
- ☐ Other (Specify _____)

Is this child's mother employed outside the home?

- ☐ Yes
- ☐ No

Is this child's family not intact by virtue of desertion, separation, divorce, or the death of one parent?

- ☐ Yes
- ☐ No

What would you estimate the annual income of this child's family to be?

- ☐ Under $2,000
- ☐ Between $2,000 and $3,999
- ☐ Between $4,000 and $5,999
- ☐ Between $6,000 and $7,999
- ☐ Between $8,000 and $9,999
- ☐ Between $10,000 and $11,999
- ☐ $12,000 and over

What is the highest level of education attained by the head of this child's household?

- ☐ Attended college
- ☐ Graduated from high school
- ☐ Attended high school
- ☐ Completed eighth grade
- ☐ Did not complete eighth grade

Does this child participate in the federal school lunch program?

- ☐ Yes
- ☐ No
- ☐ Don't know

APPENDIX C

PROCEDURE FOR CLASSROOM OBSERVATION OF TEACHERS AND PUPILS

The procedure for classroom observation of the reading and non-reading activities of teachers and pupils requires a coordinated observation effort by two trained observers. One observer observes and codes the behavior of the teacher in five-second intervals as a time-sampling process, while the other observer independently observes the behavior of one pupil in corresponding five-second intervals. This coordinated observation pattern is built around two-minute observation periods so that a different pupil is observed during each two-minute observation period. The behaviors of each pupil and the teacher are coded so that a "history" file can be created for both the teachers and the individual pupils who are observed.

The pupils in each class will be observed in a pre-determined random order during each visit. The standard information at the top of the observation sheets will be filled out by the observers before entering the classroom. Before beginning the observation cycle, the pupil observer must gain the assistance of the teacher or some adult who can point out each pupil to the pupil observer; when the pupil observer identifies each pupil, he should write a brief physical description of that pupil in the lower-left corner of that pupil's observation sheet; this description should also include articles of clothing that make this pupil easy to locate in the classroom. Once all of the pupils have been described on their observation sheets, the two observers should begin a systematic observation pattern in which the pupil observer observes each pupil in the pre-determined order (for a two-minute period for each pupil) while the teacher observer codes the teacher's behavior during this same interval of time. The teacher-observation sheet contains a box in the top-left

corner in which the teacher observer should write the sequence number of the corresponding pupil who is being observed at the same time as he is observing the teacher.

The two observers should start their stopwatches at the same time, and code the behavior of the teacher and pupil every five-seconds. This procedure, after practice and training, should become a smooth rhythm in which the observer watches for three seconds, decides during the fourth second which category applies to that three-second interval, and codes this category during the fifth second.

Since the teacher observer also codes on each teacher observation sheet the sequence number of the pupil being observed during each two-minute interval, it will be possible to match the behavior of the teacher to the corresponding behavior of the pupil who is being observed at the same time. A different teacher- and pupil-observation sheet is used by the two observers during each two-minute observation period. Any pupil who is absent from the classroom should be identified by writing the word "absent" on his observation sheet and moving that sheet to the bottom of the group of pupil observation sheets; the sequence number should not be written on the observation sheets for any pupil who is absent because the teacher-observer only observes the teacher when the pupil observer is observing a pupil who is not absent from class on that day.

READING: TEACHER OBSERVATION SCALE

The Teacher Observation Scale uses three principle organizers for the processes in classroom instruction of reading: (1) the context of instruction, (2) the mode of instruction, and (3) the content of instruction. Locating the activities of the teacher in terms of a coding strategy therefore

requires a translation of the teacher's behavior into the three-dimensional space defined by these three organizers.

THE CONTEXT OF INSTRUCTION

The context of instruction refers to these instances in which the teacher's behavior is directed toward pupils in the form of either tutoring, samll-group instruction, or large-group instruction. Any behavior of the teacher should be classified first into one of these three contexts.

Tutoring

Tutoring is defined as those instructional activities of the teacher that are directed toward an individual pupil in a one-to-one interaction.

Small-Group Instruction

Samll-group instruction refers to those instructional activities of the teacher that are directed to a group of at least two, but not more than six, pupils.

Large-Group Instruction

Large-group instruction refers to those instructional activities of the teacher that are directed to a group of at least seven pupils.

MODE OF INSTRUCTION

The mode of instruction refers to those instances in which the teacher's behavior is directed toward pupils in the form of visual, verbal, visual-verbal, or silent attending stimuli. any behavior of the teacher should be classified secondly into one of these four modes of instruction.

Visual

The visual mode of instruction refers to those stimuli presented by

the teacher in a form that pupils can see, such as pictures of objects or other types of mechanical apparati which require the pupil to attend to the visual presentation of an instructional stimulus but which are not accompanied by verbal stimuli. Examples of visual stimuli would include pictures, drawings, printings of letters or words, or writing on the blackboard.

Verbal

The verbal mode of instruction refers to words spoken by the teacher during instruction that are not accompanied by visual stimuli.

Visual-verbal

The visual-verbal mode of instruction refers to words spoken by the teacher during instruction and which are also related to visual stimuli. Examples would include instances in which a teacher points to a word on the blackboard and asks the pupils what the word is, and holding up a picture of an object and asking the pupils what object is represented by the picture.

Silent Attending

The silent attending mode of instruction refers to those pauses during instruction in which the teacher is neither talking (verbal) nor refering to visual stimuli; gestures are also included in this category as long as they are not accompanied by verbal or visual actions. An example of this behavior would be an instance of the teacher waiting for a pupil to answer a question which she has just asked him.

CONTENT OF INSTRUCTION

The content of instruction refers to those activities of the teacher that are either instructional or non-instructional in terms of the specific

content area of reading. The types of content of instruction are grouped into four types of reading activities (reading aloud to, pronunciation, language recognition, comprehension) and four types of non-reading activities (reinforcement, other instructional activities besides reading, managemnet, and non-instructional). Any behavior of the teacher should be coded into one of these nine categories of content.

Reading Activities

There are four types of reading categories in the teacher observation scale: (1) Reading aloud to, (2) pronunciation, (3) language recognition, and (4) comprehension. Reading aloud refers to all instances in which the teacher reads from a printed stimulus to the pupils; an example would be the teacher reading the story of Winnie the Pooh from a book to the pupils. Pronunciation in the sense we are using the word really refers to those instances in which the teacher asks pupils to pronounce words presented as printed stimuli. Language recognition refers to instances in which spelling, grammar, letters of the alphabet (upper- and lower-case), prefix, suffix, blends of letters (e.g. the "gl" sound) are used by the teacher. Comprehension refers to all instances in which words or groups of words are being used to study their meaning; individual words, phrases, or sentences are all coded in this one category called "comprehension."

Non-reading Activities

There are four major types of non-reading categories in the teacher observation scale: (1) reinforcement, (2) other instructional activities besides reading, (3) management, and (4) non-instructional activities. "Reinforcement" refers to all instances in which the teacher either praises or criticizes the behavior of the pupils and it is coded by the two

subcategories of "praise" and "criticize". "Other instructional activities" would include all classroom behaviors of the teacher which are instructional but which do not involve the use of the printed word; examples would be music, art, mathematics, health, and so forth as long as the pupils are not required to respond to a printed stimulus; as soon as a printed stimulus is used, regardless of the subject-area in which it occurs, this activity should be coded under one of the four major categories for "reading"; the one exception to this rule is that mathematical symbols will not be counted as printed stimuli. "Management" activities of the teacher refer to those non-instructional activities of the teacher that are directed toward the movement of pupils throughout the classroom or to the humdrum details of administrative record-keeping, such as collecting lunch money, organizing the pupils into groups, walking around the room, observing pupils from the teacher's desk, giving permission for a pupil to leave the room, and so forth. "Non-instructional activities" is a catch-all category that includes the socializing behavior of the teacher and all other activities that are not directed toward any subject-area instruction or management, including those instances in which the teacher is out of the room.

An example of the coding sheet for teacher behavior is given in Figure 1. This coding sheet allows the behavior of the teacher to be categorized into three-dimensional space. The observer should summarize the behavior of the teacher during five-second intervals by a single category coding in three-dimensions. This coding is accomplished by deciding which one of the twelve cells of the CONTEXT-MODE matrix applies to that five-second interval and then writing the appropriate category number of the CONTENT dimension in that cell. For example, if the

teacher is showing a flash card to a group of five pupils and is asking them to pronounce the word written on the card, this activity would be coded by writing the number "2" in the cell numbered "7", because the teacher is talking (verbal) and using a flash card (visual) which determines the cell for "visual-verbal", because the context is small-group instruction 2-6 pupils), and because "pronunciation" (Category # 2 of CONTENT) is the activity that the teacher is calling for from the pupils. In this way the behaviors of the teacher can be classified by context, mode, and content for both reading and non-reading activities.

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Pupil Sequence Number

READING: TEACHER OBSERVATION SCALE

ED 064299

Name of Teacher _____ Date _____

School _____ Observer Code Number _____

MODE	CONTEXT: Tutoring	Small-Group	Large-Group
Visual	1	5	9
Verbal	2	6	10
Visual-Verbal	3	7	11
Silent attending	4	8	12

CONTENT

Reading
1. Reading aloud to
2. Pronunciation
3. Language Recognition (spelling, grammar, letters, etc.)
4. Comprehension

Nonreading
5. Praise
6. Criticize
7. Other instructional activities
8. Management
9. Non-instructional

FIGURE 1. THE CODING SHEET FOR TEACHER BEHAVIOR

READING: PUPIL OBSERVATION SCALE

The pupil observation scale uses the same three principle organizers for the processes in classroom instruction of reading as the Teacher Observation Scale for Reading: (1) the context of instruction, (2) the mode of instruction, and (3) the content of instruction. Locating the activities of the pupil in terms of a coding strategy likewise requires a translation of the pupil's behavior into the three-dimensional space defined by these three organizers.

THE CONTEXT OF INSTRUCTION

The context of instruction for the pupil refers to those instances in which the pupil is attending to the teacher, to some other adult, to a peer, or when he is working alone. Those instances in which the pupil is attending to the teacher are further classified as tutoring, small-group, or large-group instruction. Any behavior of the pupil should be classified first into one of these six contexts.

Alone

"Alone" is defined as those instances in which the pupil is attending to himself, and not attending to a peer or group of peers, to the teacher, or to an adult.

Teacher

If the pupil is paying attention to the teacher, his behavior is coded into one of three categories: (1) tutoring - those instances in which the pupil is receiving individual attention by the teacher, (2) small-group - those instances in which the pupil is with the teacher and in which there are from one to five other pupils who are also with the

teacher, and (3) large-group - those instances in which the pupil is with the teacher and in which there are six or more other pupils who are also with the teacher.

Other Adult

"Other adult" is coded whenever the pupil is paying attention to an adult other than the teacher, such as aide or parent, for example, regardless of the number of other pupils who are also paying attention to this adult.

Peer

"Peer" refers to those instances in which there is no adult present in the group of pupils containing the pupil who is being observed; if no adult is part of the group of pupils, this category is coded for the pupil's behavior regardless of the size of that group of pupils.

MODE OF INSTRUCTION

The mode of instruction refers to those instances in which the pupil's attention is directed toward stimuli which are visual, verbal, visual-verbal, or involve silent attending without any of these stimuli. Any behavior of the pupil should be classified secondly into one of these four modes of instruction.

Visual

The visual mode of instruction refers to those stimuli which the pupil can see, such as pictures of objects or mechanical apperati b· which are not accompanied by verbal stimuli.

Verbal

The verbal mode of instruction refers to words spoken by the pupil, teacher, other adult, or other pupil to whom the pupil being observed is attending.

Visual-verbal

The visual-verbal mode of instruction refers to those instances in which the pupil being observed is attending both to visual and to verbal stimuli from himself, the teacher, another adult, or another pupil.

Silent attending

The silent attending mode of instruction refers to those pauses during instruction in which the pupil being observed is attending neither to verbal stimuli nor to visual stimuli. An example of this behavior would occur when the teacher pauses after asking a question to wait for some pupil to answer it.

CONTENT OF INSTRUCTION

The content of instruction refers to those activities by the pupil that are either instructional or non-instructional in terms of the specific content - area of reading. The types of content of instruction are grouped into six types of reading activities (reading to himself, being read to, verbal activities [pronunciation, comprehension, language recognition], and silent attending) and four types of non-reading activities (writing, other instructional activities besides reading, silent attending, and non-instructional activities). Any behavior of the pupil should be coded into one of these ten categories of content behavior.

Reading Activities

There are four major types of reading activities in the pupil observation scale: (1) reading to himself - those instances in which the pupil appears to be "reading" some printed stimulus, which can be presented in the form of a book, workbook, worksheet, flash card, writing

on the blackboard, and so forth; (2) being read to - those instances in which the teacher, some other adult, or another pupil is reading aloud to the pupil; (3) verbal activities - instances in which the pupil is speaking during reading activities; these activities are further classified into, (a) pronunciation of letter, words, phrases, or sentences, (b) comprehension - those instances in which the pupil gives the meaning of words or phrases or sentences rather than merely pronouncing these stimuli; (c) language recognition - those instances in which the pupil states verbally such things as spelling of words, grammar, letters of the alphabet, blends of letters, and so forth; (4) silent attending refers to those activities during reading activities in which the pupil is not talking, reading to himself, or being read to.

Non-reading Activities

There are four major types of non-reading categories in the pupil observation scale: (1) writing - those instances in which the pupil is making marks or symbols on some material, (2) other instructional activities besides reading - those instances in which areas such as art, music, health, mathematics, science, and so forth are being attended to by the pupil that do not involve the use of the printed stimulus; as soon as a printed stimulus is being attended to by the pupil, as long as this printed stimulus is not a mathematical symbol, it should be coded as one of the reading activities, regardless of the subject-area content of the stimulus; (3) silent attending refers to instances in which the pupil is not talking during non-reading activities, as long as the activities are not non-instructional; and (4) non-instructional - those instances in which the pupil is not paying attention to instructional

activities; examples of this behavior would be talking about social activities either with other pupils, with the teacher, or with other adult, walking around the room, running, staring out of the window, and so forth.

An example of the coding sheet for pupil behavior is given in Figure 2. This coding sheet allows the behavior of the pupil to be categorized into three-dimensional space. The observer should summarize the behavior of the pupil being observed during five-second intervals by a single category summary coding into three-dimensions. Each pupil should be observed for a two-minute period of time, and the pupils in the classroom should be observed in a pre-determined random order during each visit. The coding is accomplished by deciding which one of the cells of the CONTEXT-MODE matrix applies to that five-second interval, and then writing the appropriate category number of the CONTENT dimension in that cell. For example, if the pupil were paying attention to the teacher who was writing the phrase "yellow bird" on the blackboard while she was pronouncing this phrase, and if there were ten other pupils in the group of pupils containing the pupil who was being observed, this pupil behavior would be coded by writing the number "2" in the cell numbered "15", because the teacher is talking (verbal) and writing on the blackboard (visual) which determines the cell for "visual-verbal", and because "being read to" is the reading activity of the pupil during this type of reading instruction. In this way the behavior of the pupils can be classified by context, mode, and content for both reading and non-reading activities.

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READING: PUPIL OBSERVATION SCALE

ED 064300

Pupil Code Number _____ Date _____

Pupil Name _____

Name of Teacher _____

School _____ Observer Code Number _____

Sequence in which this pupil was observed: [ ]

MODE	CONTEXT					
	Alone	Teacher: Tutor	Teacher: Small-Group	Teacher: Large-Group	Other Adult	Peer
Visual	1	5	9	13	17	21
Verbal	2	6	10	14	18	22
Visual-Verbal	3	7	11	15	19	23
Silent Attending	4	8	12	16	20	24

Description of pupil

CONTENT

Reading
1. Reading to himself
2. Being read to
   Verbal Activities
   3. pronunciation
   4. comprehension
   5. lang. recognition (spelling, letters, etc.)
6. Silent attending

Non-Reading
7. Writing
8. Other instructional activities
9. Silent attending
10. Non-instructional activity.

FIGURE 2.
THE CODING SHEET
FOR PUPIL BEHAVIOR

APPENDIX D

Characteristics of Reading Achievement Measures

METROPOLITAN ACHIEVEMENT TESTS

Levels, Tests, Items, and Time

Level	Primary I		Primary II		Elementary		Intermediate	
Grades	1.5 - 2.4		2.5 - 3.4		3.5 - 4.9		5.0 - 6.9	
Test	Items	Time	Items	Time	Items	Time	Items	Time
Word Knowledge	35	15	40	18	50	15	50	15
Reading	42	30	44	30	45	25	45	25
Totals for two subtests	77	45	84	48	95	40	95	40
			Reliabilities*					
Word Knowledge	.94		.95		.93		.94	
Reading	.96		.95		.93		.94	

*Spearman-Brown split-half reliability coefficients

COOPERATIVE PRIMARY TEST

READING 12

		Items	and	Time
12A	alternate forms	50		35
12B		50		35

Reliability (Internal Consistency)

	Form A	Standard Error	Form B	Standard Error
Spring, grade 1	.87	2.94	.86	2.84
Fall, grade 2	.90	2.89	.89	2.81

STEP READING (Series II)

Form 4 (grades 4 - 6)

Items and Time

Part I	30	15
Part II	30	30
Total	60	45

Reliabilities

	Internal Consistency		Parallel Forms	
	Form A	Form B	AB	BA
Grade 4	.88	.84	.86	.81
Grade 5	.91	.91	.76	.89
Grade 6	.92	.95	.89	.93